Canadian Transport Commission
Commission canadienne des transports

An Inquiry into the Transportation Requirements of Yukon

Inquiry Officers

Edward Weinberg

Gary M. McLaughlin

Neil Thurston

December 15, 1983

Canada

CANADIAN TRANSPORT COMMISSION
Ottawa K1A 0N9

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The opinions expressed herein are those of the inquiry officers and do not necessarily reflect the formal opinions of the Canadian Transport Commission.

FOREWORD

The Canadian Transport Commission agreed to conduct an independent inquiry into the transportation requirements of Yukon on June 17, 1983. This was a result of a request by the Government of Yukon for a definitive evaluation of territorial surface transportation in the short, medium and long term to assist Yukon in making economic development decisions. We were appointed by CTC to conduct the inquiry under the provisions of Section 22 of the National Transportation Act.

Yukon initially set a deadline for the final inquiry report to be June 1984. Yukon subsequently asked that certain major issues be dealt with as a matter of urgency. These issues centred mainly on the future transportation of Cyprus Anvil Mining Corporation traffic. This report, then, presents our evaluation of the most urgent issues thought to be relevant over the next five years. It summarizes our findings to date, and is based solely on the information, analyses and opinions expressed verbally or in writing to us by interested parties and on public information and data available to us.

We feel that interested parties should have the opportunity to review our report, and to rebutt or to submit new information. In this respect, we will consider all of the written comments on this report, received before February 15, 1984,* prior to determining our final recommendations to Yukon.

dated this 15th day of December, 1983.
Ottawa, Canada

(signed)
Edward Weinberg

(signed)
Gary M. McLaughlin

(signed)
Neil Thurston

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* Mail comments to
Mrs. M. Sirotich
Research Branch
Canadian Transport Commission
Ottawa, K1A 0N9
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1.0 INTRODUCTION

1.1 General Considerations

Yukon's economy is particularly vulnerable to the vagaries of world demand and prices for its renewable and non-renewable resources. This has held true since the Klondike gold rush and will likely continue to be prevalent in the short and medium range future. Although other parts of Canada are so-influenced, the impact of external factors is greater for Yukon. This is primarily because Yukon's economic base is narrow, comprising a few mines, seasonal tourism and government. The high cost of goods and services, severe climate, remoteness of resupply sources (i.e. originating points of backhaul traffic) and lack of control over the closest tidewater port, tend to impede Yukon's ability to firmly influence and plan its own economic well-being. Economic development decisions and those related to transportation must therefore be cast so as to yield cost effectiveness and efficiency in the "boom or bust" environment of this emerging northern-most corner of Canada - at least until the time when the economic base of Yukon expands and diversifies into a more stable state.

Future Yukon development will mainly spring from the re-opening of closed mines, exploitation of virgin ore reserves and increased tourism. The recent national economic recovery has been accompanied by a consistent decrease in inflation along with an apparent improvement in the world economy. This will tend to spur industrial activity in Yukon, but there will be a time lag before this occurs.

Increased mining in Yukon, considering its relatively high cost, will probably follow like development of the less expensive southerly mines in Canada and elsewhere in the world.

Tourism in Yukon has not appeared to suffer from the general economic down-turn in North America and the world. Nevertheless, we do not believe that growth in tourism, although important to the Yukon economy, offers the potential benefit to Yukon that could be realized by mine development.

One interested party described Yukon as "the land of tomorrows", a region where expectation of the next boom renders more palatable the harsh realities of the time at hand. Many look to Government to create artificially such "booms". For example, one Yukoner exclaimed at a public meeting in Whitehorse that "... what Yukon needs is for the Federal Government to give Yukon a mega-project ...". This attitude is unrealistic.

Yukon mine development has been viewed by some to be substantially dependent on the availability of efficient and inexpensive power and transportation facilities and operations. Some argue that such utilities should be heavily subsidized to the benefit of mine development and corporate profit on the grounds that "... it is the Federal Government's responsibility ..." to do so. Direct subsidy to enhance the world competitiveness of mines has also been suggested. There is, however, a limit to the extent that economic development in Yukon, or anywhere else in Canada, can be artificially supported, unless all other avenues have been explored fully, and other demands for Federal support are deemed to have less priority. Reasonable collective agreements with labour, prudent efficient use of the existing economic infrastructure and innovative management also appear to us to be criteria for a speedy recovery - criteria which are business-like and self-supporting.

Tourism development appears to us to be dependent on other factors. It relies more on maintenance and creation of old and new attractions and aggressive advertising, along the two major themes of wilderness and Klondike gold rush. There is, nevertheless, a direct link between tourism and mine development, particularly where transportation infrastructure is jointly utilized for the movement of both tourists and commercial goods. There are also direct links between tourism and mine development, where increased industrial activity lessens the desirability of tourist attractions, and where continued lack of industrial activity erodes the economic base of communities and facilities that depend on tourism for a secondary income. In other words, we believe that transportation or other options to stimulate Yukon tourism or mining should not be considered in isolation of each other.

During economic hard times or in underdeveloped areas, a mood of development at any expense has emerged in certain segments of the Canadian economy. Uneconomic ventures tend to seek to reduce their financial risks through attracting Government subsidies. Failing enterprises tend to use aid programs to prop up businesses that would not, and perhaps should not, exist. Their time has passed by or is yet to come. There are often good reasons for such assistance, however, particularly when there is hope for future self-sufficiency and social return.

It is within these broad considerations that we intend to proceed.

1.2 Terms of Reference

The objectives and scope of the inquiry, agreed to by CTC and Yukon on June 17, 1983 are reiterated below:

"Inquiry Objectives

The inquiry has two basic objectives:

1) To obtain and evaluate information and opinions pertaining to existing and potential surface transportation systems servicing Yukon in terms of adequacy, efficiency and comparative economics with respect to accommodating short, medium and long term transportation demand to determine the net socio-economic benefits (private and public) arising from each alternative surface transportation system, or combinations thereof; and

2) To make recommendations, based on the foregoing, as to the nature and implications of decision options which will provide the most adequate, efficient and lowest economic cost surface transportation system, or systems, to service the short, medium and long term requirements of Yukon; and

3) To make recommendations, for each decision option, as to methods of implementation.

Inquiry Scope

The scope of the inquiry will be constrained by: 1) the intent of Section 22 of the NTA; 2) the nature of submissions to the board; and 3) to issues that are relevant to highway, railway and marine modes of operation.

Emphasis will be placed on the role of transportation in: 1) the movement of Yukon resources; 2) the servicing of tourists; and 3) the support of the Yukon's industrial base and its citizens.

The time horizons to be considered will be: 1) the short term (meaning 1984); 2) the medium term (meaning 2-5 years); and 3) the long term (meaning 5-15 years).

To the extent possible, recommendations will be based on the weighing of all identifiable benefits and costs associated with the public and private sectors, in consideration of jurisdictional, labour, social and political issues."

1.3 Early Findings

We initially conducted a review of the issues that fell within the very broad terms of reference. Private and public meetings were held throughout Alaska, Yukon, British Columbia, Alberta, and the state of Washington and in Ottawa to obtain the views and opinions of various levels of Government, industry, small businesses and the general public. It became very clear to us that there was but one central issue from which most other issues evolved.

Simply stated, the major issue pertained to: a) if, when and for how long Cyprus Anvil Mining Corporation (CAMC) would recommence production at its mine at Faro; and furthermore, b) what was the most cost-effective and efficient transportation operation and route to service CAMC once it does come into production. We have therefore centered our attention herein on this problem which Yukon feels is an urgent matter.

1.4 Report Structure

We intend to present our findings by first describing the characteristics and positions of Cyprus Anvil Mining Corporation (CAMC), White Pass and Yukon Corporation (WPY), and other interested parties.

Then, we will present our analysis of Yukon tourism and our comparative cost-benefit analysis of the available and potentially available transportation options to CAMC and others. Finally, we will outline our conclusions and recommendations.

2.0 CYPRUS ANVIL MINING CORPORATION

2.1 General Considerations

CAMC has operated its open pit lead-zinc-silver mine and mill near Faro since 1970. It is one of the largest such mines in the world, and, when operating, represented about 3% of the world production of lead and zinc and 13-15% of Canadian production. CAMC has proven ore reserves of 27 million tonnes and possible reserves of 60 million tonnes at the Grum, Vangorda, Dy and Swim deposits. Most reserves have lead content of 3-4%, zinc content of 4-5% and silver content ranging from 36-100 grams/tonne, according to Energy Mines and Resources. CAMC also controls land where there is a high probability of finding new deposits. It has a minimum of twenty year life at currently planned levels of production.

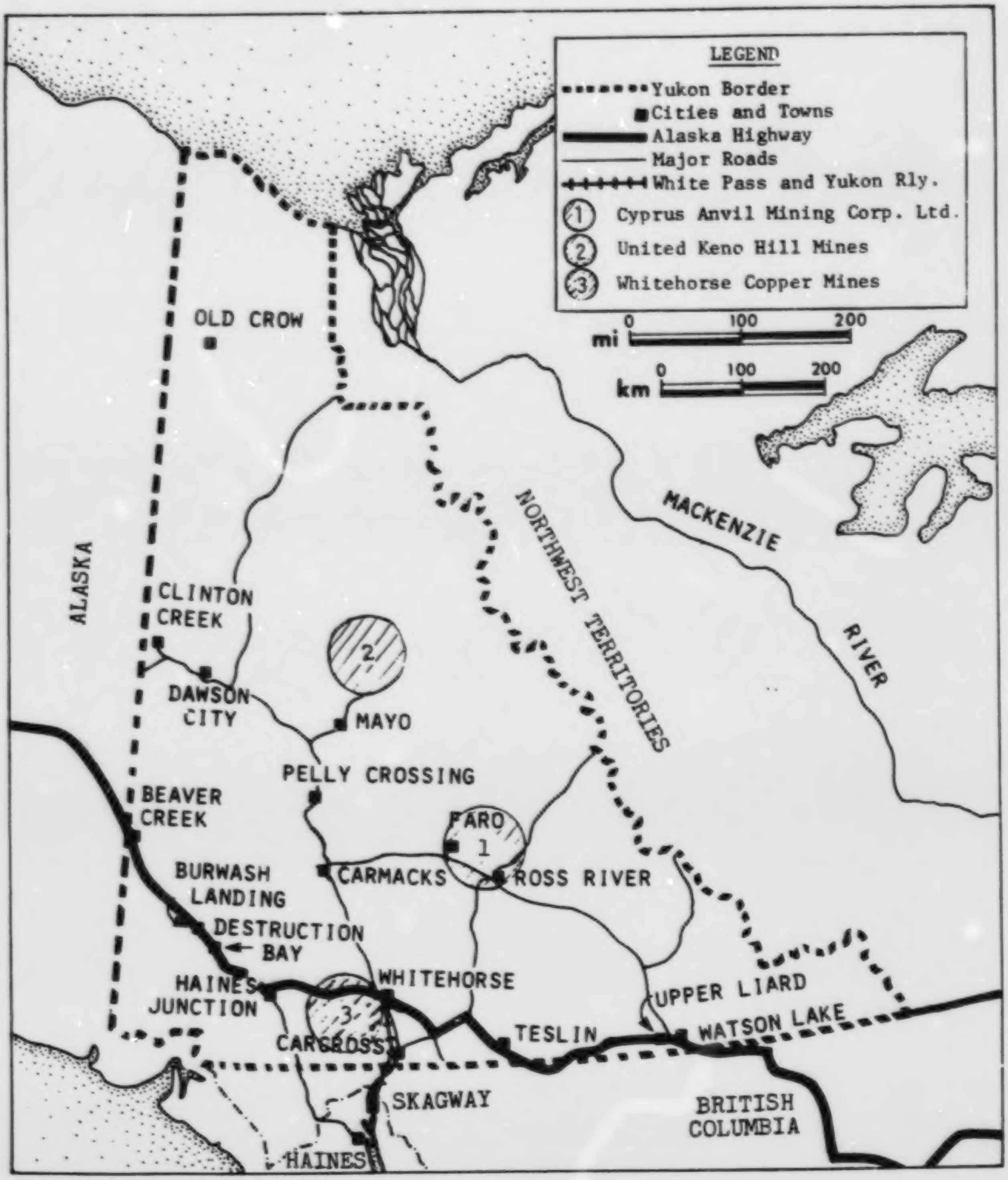
Dome Petroleum (Dome) has 100% control of CAMC. It became owner of CAMC by virtue of acquiring Hudson Bay Oil and Gas Ltd. (HBOG) in 1982. HBOG was in the process of acquiring CAMC at the same time that Dome was in the process of acquiring HBOG. Dome's acquisition of CAMC was not the principal objective, but was rather a residual result of the HBOG acquisition.

In June, 1982, CAMC mining operations at Faro, Yukon, were closed down by Dome. Between 1970 and the closure of the mine, CAMC received roughly $1.6 billion in gross revenues and ended up with a cumulative net negative cash flow of about $200 million and with an unrecovered investment of about $167 million. CAMC recently stated to us "CAMC is still some $190 million "in the red" even though the operation at Faro was established over 15 years ago". (see Appendix 2)

During its operating life, CAMC has paid roughly $20 million (approximately 1.3% of Gross Revenues) in Federal tax and about $16 million in royalties. CAMC claims that it would have paid more taxes but CAMC "... has had a policy of reinvesting profits and increasing its investment in Yukon."

Since its acquisition and closure of CAMC, Dome has attempted to find viable markets for CAMC ore and buyers interested in the property, to no avail.

In April 1983, the Government of Canada, represented by the Honourable John Munro, Minister of Indian and Northern Affairs, came to an arrangement with CAMC which permitted the mine to reopen in June 1983. This Federal aid involved a $19.6 million Federal Government loan to CAMC, $4 million in aid under the Unemployment Insurance Act and the NEED program, and $1 million from the Yukon Government. As part of this arrangement, CAMC agreed to invest $25 million of its own. This agreement


LEGEND
Yukon Border
Cities and Towns
Alaska Highway
Major Roads
White Pass and Yukon Rly.
① Cyprus Anvil Mining Corp. Ltd.
② United Keno Hill Mines
③ Whitehorse Copper Mines
mi 0 100 200
km 0 100 200
OLD CROW
ALASKA
CLINTON CREEK
DAWSON CITY
MAYO
PELLY CROSSING
BEAVER CREEK
FARO
1
2
3
CARMACKS
ROSS RIVER
BURWASH LANDING
DESTRUCTION BAY
HAINES JUNCTION
WHITEHORSE
CARCROSS
TESLIN
UPPER LIARD
WATSON LAKE
SKAGWAY
HAINES
BRITISH COLUMBIA
NORTHWEST TERRITORIES
MACKENZIE RIVER

provides for the employment of about 210 mine workers over a two year period to proceed with the stripping of overburden from one of CAMC's deposits. Thereby, CAMC is able to prepare itself for actual mining of ore at a lower cost than would otherwise be attainable without the Federal aid and/or to increase the value of its property if it decides to sell to another producer. In addition, the mine's Steelworkers Union signed a contract limiting wage increases and adopting other measures expected to boost productivity by an estimated twenty percent, according to CAMC. These events have served to reduce at least some of the problems that gave rise to CAMC closing down its operation.

The mill, however, remains closed. CAMC argues that costs must still be significantly reduced if the mine and mill are to re-open and remain open on a continuous basis. Prior to shut-down, CAMC determined that reductions in the cost of management, electricity, transportation and labour were necessary. Some progress has been made to date, as noted above. The size of management has also been decreased and plans have been made to improve the efficiency of the mine and the mill. Efforts to reduce power and transportation costs are still being pursued. CAMC points out that "... full operations will resume when metal prices recover and when power, transportation and royalty cost problems are resolved."

CAMC requires six months lead time, after a decision to re-open the mill is made, in order to finalize marketing, to staff operations, to make capital expenditures and to secure supply contracts. CAMC will not start up the mill during the winter due to the harsh Yukon climate. Consequently, the earliest time for mill start up would be late 1984, and the decision to do so would have to be made in or before April 1984 at the latest. The fact that Japanese concentrate buyers contract on a calendar year basis and the fact that those contracts are set in the fall of the previous year mitigates against a start up earlier than late 1984, according to CAMC. In this context, all transportation arrangements including trucking approvals (if necessary) must be in place by mid-March 1984 or it will be unlikely that the mill would reopen and that shipments would resume prior to the fall of 1985.

The opening of the CAMC mine is seen by Yukon to be of critical importance. This is not surprising considering the economic significance of CAMC prior to the 1982 closure.

In 1982, Informetrica prepared a report which provides insight into the significance of CAMC to the Yukon economy. The Report was based on 1981 operations and therefore much of the information is now out of date. However, the following data as it relates to the year 1981 is of interest:

1) Direct salaries and wages totalled $28.2 million and all direct and indirect salaries and wages

arising from CAMC operations totalled an estimate of between $58.6 and $62.6 million. (Multiplier varies between 2.1 and 2.2)

2) CAMC employees paid $8.3 million as income tax. Taxes paid by CAMC employees and others employed as a result of CAMC operations was estimated at $14 million.

3) CAMC paid taxes to the Town of Faro of $0.5 million and paid property taxes of $0.5 million to Yukon Territory Government.

4) CAMC paid $0.6 million fuel tax for in-pit operations, and indirectly paid fuel tax of $0.3 million in WPY operations. CAMC also spent $1.2 million on road maintenance and upgrading on the road connecting the mine to the town.

5) 12.4% of Yukon Territory Government revenue was estimated to be derived from Cyprus Anvil.

Our main concern is with the transportation aspects related to CAMC traffic and, therefore, we will deal with that and leave other cost-concerns and matters related to CAMC's economic viability to other more appropriate jurisdictions.

2.2 Significance of Transportation to CAMC

CAMC's transportation bill is composed of four major items:

a) ore concentrate transportation charges from Faro to tide-water port;

b) ore concentrate terminaling at that port;

c) re-supply transportation charges to Faro from southern Canadian supply points; and

d) ore concentrate ocean shipping charges from tide-water port to world markets.

Our jurisdiction is restricted to the former three items. There appears to be little that the Federal or Yukon Government can do to assist CAMC in obtaining better rates in international shipping.

In order to place the transportation options and potential solutions in their proper context, it is essential to assess:

a) the role that transportation may have played in CAMC's decision to close the mine as compared to other factors;

b) the proportion of expense that is represented by transportation in the past; and from that

c) the potential significance of transportation cost reduction on the economic viability of CAMC or alternatively the significance of transportation cost to the decision to delay full operation of the mine.

CAMC has traditionally shipped its concentrate and received its resupply traffic on/from the WPY truck-rail route to Skagway. WPY has billed CAMC for this service as in table 2.1, according to CAMC:

Table 2.1

CAMC PAST TRANSPORTATION BILL FARO-SKAGWAY
($000)

Year	WPY Truck-Rail	Terminal	Resupply	Total
1970	4,854	1,260	1,071	7,185
1971	8,380	1,417	1,275	11,072
1972	8,676	1,368	1,445	11,489
1973	9,349	1,433	1,479	12,261
1974	8,798	1,435	2,142	12,375
1975	13,384	1,636	2,856	17,876
1976	5,851	1,548	1,938	9,337
1977	12,653	1,642	3,366	17,661
1978	13,726	2,169	4,029	19,924
1979	15,587	2,244	4,097	21,928
1980	16,198	2,494	5,338	24,030
1981	17,999	2,494	6,120	26,613
1982	12,296	1,574	3,774	17,644
Total	147,751	22,714	38,930	209,395

The transportation cost from Faro to Skagway is one area where CAMC is attempting to obtain future savings. It is therefore worthwhile to evaluate the past significance of this expense relative to CAMC's direct operating expense which is seen in table 2.2 to range from 13.8% to 25.1%.

Table 2.2

PAST SIGNIFICANCE OF FARO-SKAGWAY TRANSPORTATION EXPENSE TO CAMC DIRECT OPERATING EXPENSE ($000)

Year	Direct Operating Expense	Transportation Expense*	%
1970	32,995	7,185	21.8
1971	44,191	11,072	25.1
1972	52,658	11,489	21.8
1973	73,435	12,261	16.7
1974	85,183	12,375	14.5
1975	113,112	17,876	15.8
1976	58,722	9,337	15.9
1977	113,377	17,661	15.6
1978	133,276	19,924	14.9
1979	159,392	21,928	13.8
1980	163,261	24,030	14.7
1981	172,422	26,613	15.4
1982	112,969	17,644	15.6
Total	1,314,993	209,395	15.9

* for concentrate and backhaul traffic - does not include ocean shipping.

Another measure of the significance of Faro-Skagway transportation costs is in relation to the direct operating expense, plus capital costs, taxes, royalties, dividends, interest and other negative cash flow items as seen in table 2.3 to range from 10.4% to 20.4%.

Table 2.3

PAST SIGNIFICANCE OF FARO-SKAGWAY TRANSPORTATION EXPENSE TO CAMC NEGATIVE CASH FLOW ($000)

Year	Negative Cash Flow	Transportation* Expense	%
1970	45,053	7,185	15.9
1971	54,255	11,072	20.4
1972	62,718	11,489	18.3
1973	94,692	12,261	12.9
1974	94,731	12,375	13.1
1975	152,024	17,876	11.8
1976	59,716	9,337	15.6
1977	135,457	17,661	13.0
1978	154,177	19,924	12.9
1979	210,939	21,928	10.4
1980	220,983	24,030	10.9
1981	251,933	26,613	10.6
1982	154,954	17,644	11.4
Total	1,691,632	209,395	12.4

* as in table 2.1, 2.2.

From tables 2.2 and 2.3 it can be seen that the past significance of the costs of transporting ore concentrates from Faro to on board ship at Skagway and of transporting resupply traffic to Faro averages about 16% of direct operating expense and 12 1/2% of CAMC's total negative cash flow. There also was little change in this proportion in years just prior to mine closure. Therefore, there is little, if anything, for us to conclude that transportation costs were the sole, or indeed the predominant cause of CAMC's temporary demise. If anything, it seems that the proportion of total expenses attributable to transportation was less than average in the years immediately before mine closure. Transportation costs appear to have changed, at least in proportion to other CAMC expenses. Considering CAMC's reasons for closing the mine, it is hard for us to conclude that even a substantial, but reasonable, reduction in transportation cost would have altered this decision.

As an example, the 1981 CAMC net cash flow was a loss of $94.5 million. WPY's bill for transportation services was $26.6 million or only 28% of the yearly cash flow loss. In 1982, when the mine closed down, WPY's bill was only 25% of the cash flow loss for that year. In other words, if in 1981 and 1982, WPY provided free transportation for CAMC traffic, CAMC would still have had a negative cash flow of about $68 million and $52 million, respectively, and therefore we believe that the decision to close the mine would likely have been made due to other CAMC cost factors.

Analyses of the production cost per tonne of lead and zinc metal content (i.e. the amount of lead and zinc metal contained in the concentrate produced by CAMC), net of transportation costs, compared to the WPY transportation charges per tonne of lead and zinc metal content produced, dramatically shows that increases in non-transportation costs were far greater than increases in transportation costs. For instance, over the last ten years, WPY transportation charges per tonne of lead and zinc content rose roughly three-fold. All other costs per tonne of lead and zinc content rose five-fold. The rise in the latter is, to some degree, due to drop in the lead and zinc content in the ore which diminished 40% and 24%, respectively, over that same ten year period and due to increases in labour, management, debt, power and materials costs. These facts are depicted in Table 2.4.

Table 2.4

TREND IN CAMC UNIT COST FACTORS
(base year 1972)

Year	Index of Production Cost* per tonne	Index of WPY Transportation Charges** per tonne	Index of Metal Content*** in Ore Zinc	Index of Metal Content*** in Ore Lead
1970	127	110	103	95
1971	85	100	108	104
1972	100	100	100	100
1973	157	105	108	106
1974	189	127	90	97
1975	259	153	87	87
1976	209	180	88	57
1977	267	177	79	58
1978	260	172	83	68
1979	415	215	85	70
1980	488	268	75	67
1981	591	313	77	63
1982	515	294	76	60

* Negative cash flow net of WPY transportation charges for concentrate and backhaul traffic

** Transportation costs for concentrate and backhaul divided by tonnes of metal content produced

*** Source: Derived from Energy, Mines and Resources data on % of metal content per tonne.

Based on the foregoing we find little to refute the following conclusions:

1) a future reduction in transportation costs would tend to make CAMC concentrate less expensive on the world market, however, a reasonable reduction would not make significant impact on the economic viability of CAMC relative to economic efficiencies in other areas of CAMC expenses; and

2) future reduction in transportation costs alone would not likely seriously influence the ability of CAMC to commence production in 1984 unless major economic efficiencies in other areas of CAMC expenses were made first.

2.3 CAMC's Basic Position

CAMC's September, 1983 submission to us contained CAMC's position with respect to transportation. This submission was discussed in detail with CAMC and Dome officials and their consultant Trimac Consulting.

The following opinions were forwarded by CAMC:

1) "Providing truck/rail costs are competitive with an all trucking system, the existing truck/rail system (i.e. WPY) is an acceptable method...";

2) "Trucking to either Skagway or Haines results in CAMC costs being reduced" (relative to the WPY truck/rail system) by $11 million and $5 million per year respectively;

3) "The preferred route for trucking will be Faro to Skagway. In the event the Skagway road is not open to traffic, CAMC would pursue trucking to Haines";

4) Besides the apparent economic advantages, "trucking offers CAMC the following advantages:

   - Long term competitive costs. CAMC would tender its business periodically and consequently ensure that the costs remain competitive.

   - ... The trucking systems can be scaled to serve only CAMC whereas, the rail system is of a fixed capital size and cannot be adjusted easily...

   - In the event that CAMC is shut down...the shutdown cost of the trucking system is less than the truck/rail system."

5) "Approval for hauling ore loads to Skagway (via truck) appears to be a political question, rather than one of technical or financial concerns."

More specifically, with respect to the Faro-Skagway trucking operation, CAMC holds the opinion that:

a) there are no physical restrictive bridges or roadways limiting the gross vehicle weight to levels below 134,500 lbs;

b) operations would be based on 70 foot, 7-axle B-train trucks with facility to handle loaded and empty ore containers and loaded backhaul containers for such items as coal, in combination with lime, soda ash, fuel, rods and balls and general freight;

c) administration would be centered in a terminal in Whitehorse to oversee truck operations, repairs and maintenance as well as to provide a "turn-around" point for drivers to/from Faro and to/from Skagway.

With respect to the Faro-Haines route, CAMC stated "the Haines route is not restricted by structures or small pioneer roads and appears capable of facilitating 134,500 lb. loads". Permission to operate at that load level over the Alaska section of the road is considered by CAMC to be only "a political concern".

If the 134,500 lb. load is not permitted on the Alaska sections of either the Skagway or the Haines alternative, a shuttle operation (i.e.: the splitting of B-train configurations to a single trailer operation in order to meet Alaskan road weight limits) was recognized by CAMC to be a possible requirement.

CAMC also provided estimates of per tonne truck costs and estimated truck rates as in table 2.5:

Table 2.5

CAMC TRUCK COST/RATE
ESTIMATES
($/tonne*)

	Cost**	For Hire Rate
Faro-Skagway	32.81	35.10
Faro-Haines	45.28	48.25

* per tonne of concentrate and backhaul traffic assuming a straight-through 134,500 lb. g.v.w. truck (i.e. no shuttle operation on the U.S. side of the routes) based on 1983 $

** 6 year average cost - could be considered an estimate of cost if CAMC operated its own proprietary trucking operation

Based on the existing WPY truck/rail contract and "prorating of published rates" CAMC presented a comparison of transportation charges and savings by the three options for each year from 1985 to 1990 summarized below.

Table 2.6

CAMC ESTIMATED TRANSPORTATION CHARGES AND SAVINGS***
(1983 $)

	Average Charges* ($000/yr.)	Average Estimated Savings** ($000/yr.)
Truck Faro-Skagway	18,747	13,554
Truck Faro-Haines	25,770	6,531
Truck/Rail Faro-Skagway	32,301	0

* average of estimates from 1985-1990 inclusive

** based on tonnage of concentrate and backhaul traffic

*** as will be seen later, we have shown that some of these charges and savings are not realistic

In summary, CAMC's basic position is that:

1) it "regards the resolution of the transportation issue as a major consideration in re-opening the mine";

2) trucking over the South Klondike Highway with 134,500 lb. g.v.w. B-train ore trucks is technically feasible with no major capital upgrading required and no additional costs other than to open the road in the winter;

3) trucking over the Haines Route is technically feasible;

4) permission to operate over the Canadian portion of the South Klondike Highway with 134,500 lb. g.v.w. B-train ore trucks is a "political matter";

5) permission to operate over the U.S. sections of the South Klondike or Haines Route is also a political matter which, if not resolved, would require shuttling the trailers on U.S. soil; and

6) savings to be gained by trucking as compared to the WPY truck/rail route are $11 million/year plus, and $5 million/year plus on the South Klondike and the Haines Route respectively.

CAMC also made it very clear in its submission "If trucking to Skagway is not approved, Cyprus Anvil may delay returning the mine and mill to full operation and may even reduce the current (stripping) activities."

As will be seen later, we do not concur with CAMC's position.

2.4 CAMC's Position on Other Matters

CAMC also expressed a position on other issues related to the choice of transportation route options, namely:

1) Tourism;
2) Road Safety;
3) Future Mine Needs; and
4) Subsidies and Grants.

Tourism

Prevalent arguments of others, that the opening of the South Klondike Highway to heavy continuous B-train ore trucks would have a severe negative effect on Yukon tourism because the WPY railway would shut down and tourists would not want to drive on the road in harmony with CAMC trucks, were countered by CAMC. CAMC considers such opinions to be over-stated, because it is their belief that:

1) only 20% of the $50 million spent by tourists in Yukon derives from tourists coming from Skagway and only 25% of that, or $2 1/2 million was spent by tourists travelling by the WPY railway and that the resultant loss would probably be supplanted by increased bus tourism expenditures;

2) even when the restored steam engine was put into commission by WPY in 1982, that was touted as a main "drawing card", WPY passenger patronage declined between 1981 and 1982; and

3) if Yukon truck drivers are responsible and heed posted speed signs, trucking will not hinder tourist traffic;

Road Safety

1) "For the short term, CAMC's position is that the road does not need upgrading to ensure safety at the forecasted speed" (truck speed is assumed to average 38 m.p.h. in summer and 25 m.p.h. in winter in Canada and 15 m.p.h. on the Alaskan 12 mile hill section).

2) "In the longer term, the road should be upgraded as usage increases and the needs of Yukon change..." and with the upgrading "...higher speeds would be forecasted and trucking economies would improve."

3) "...a high standard of safety would be maintained."

Future Mine Transportation Needs

Essentially, CAMC contends that none of the potential mines to be developed in Yukon are "economic barn burners". See Appendix 3 for details of future Yukon mines. Their combined production would not result in enough traffic to warrant expansion of the WPY rail system to the respective properties. Therefore, if the WPY truck-rail system is to be employed, CAMC believes it would be inefficient, due to the truck-rail transfer and the short rail haul.

Subsidies and Grants

CAMC stated that it "...is not in favour of annual subsidies because subsidies ultimately have to be paid by Canadians. Subsidies have a history of 'disappearing' over a time when economic conditions improve; and subsidies do not assist in achieving the ultimate objective of creating an efficient low cost transportation system."

As well, CAMC is not in favour of capital grants to WPY as CAMC feels it would still be locked into a monopolistic situation, captive to WPY. If money is to be spent, CAMC feels it should be spent on the South Klondike Highway. Interestingly enough, expenditure of public funds on the South Klondike Highway would, in effect, be a subsidy to CAMC.

CAMC stated that it felt victimized by having to pay minimum compensatory rates on the WPY Railway as required by CTC, even though such requirements are pursuant to the legal provisions of the Railway Act. CAMC argues that under such arrangements, it being the major shipper, must pay for every adversity to the railway. As this "arrangement" is law, we have no comment on CAMC's contention.

Presumably, CAMC's position with respect to subsidies and grants does not include the current aid program granted it by the Federal Government. Interestingly enough, WPY had no objections of subsidies being paid to CAMC to permit them to pay for WPY costs of servicing CAMC traffic.

As will be seen later, we do not completely concur with CAMC's position on these matters.

2.5 CAMC's Potential

When considering the merits of each available transport option, the question of when CAMC will recommence production is crucial. As noted earlier, the most optimistic production date would be fall 1984. However, when asked, CAMC was unable or unwilling to speculate as to when they will recommence production. (see Appendix 2)

Equally crucial is the question of how long CAMC would stay in production once the decision to recommence was made. CAMC could not or would not answer that question at this time.

The answers to these questions will be influenced by future world base metal and silver prices and demand as well as the aforementioned need to lower CAMC costs. CAMC's ability to convince world consumers to buy lead-zinc concentrates from them is equally as important. We recognize CAMC's difficulties in this respect. Forecasting world base metal prices is very difficult. We therefore sought to find information from other sources.

Since 1970, lead prices have fluctuated much more than zinc prices, as seen in table 2.7. Since 1974, zinc prices appear to have been relatively stable, ranging between 30-40¢/lb. Whereas, lead prices have fluctuated from 20-53¢/lb. At present, (June/83) lead prices are at the lowest since 1973 at 19.4¢/lb. Zinc price is hovering about the 40¢/lb. level.

In October, 1983, the International Lead and Zinc Study Group met in Geneva, Switzerland and certain conclusions arose with respect to world demand and price for lead and zinc which appear to be pertinent to CAMC's short-term future.

1) Most delegates were optimistic regarding the future of zinc. Some expressed fear that, on the short term, there may not even be an ample supply to meet world demand;

2) They had not nearly as optimistic an outlook for lead, as lead metal inventories are at record high levels and prices are very low;

3) Reductions in lead mine production in Canada and the United States have been more than offset by Australian production;

4) World lead supply should exceed demand by almost 60,000 tonnes in 1984;

5) Decreased zinc production in Canada and the United States is offset by production increases in Peru and Australia;

6) Large purchases of lead and zinc by the U.S.S.R., China and other socialist countries are and will be of future importance.

Table 2.7

LEAD/ZINC/SILVER PRICE TRENDS

	(U.S.¢/lb.)**		($/troy oz.)
Year	Lead*	Zinc*	Silver***
1970	14.2	15.0	N/A
1971	14.2	17.0	1.571
1972	15.3	18.1	1.671
1973	18.0	27.5	2.567
1974	24.5	39.0	5.595
1975	19.5	38.0	4.503
1976	25.6	37.0	4.291
1977	34.2	30.5	4.922
1978	42.0	34.5	6.171
1979	52.6	37.2	12.974
1980	39.0	40.5	24.099
1981	25.5	38.5	12.617
1982	31.1	42.6	9.831
1983 Jan.	22.0	38.6	15.23
Feb.	21.0	38.6	17.13
March	20.7	37.9	13.02
April	21.2	38.0	14.44
May	20.2	38.1	15.92
June	19.4	39.5	14.51

* Source: Lead/Zinc Statistics - Monthly Bulletin International Lead/Zinc Study Group, London, England

** prices valid for month of December in each year, unless otherwise noted

*** annual average figures in $ Cdn.

CAMC, however, suggested that future sales would likely be one-third to Japan and two-thirds to Bunker Hill, Idaho and Korea and Europe. In the past, the Japanese purchased 100% of CAMC concentrate production. The major customer for CAMC lead/zinc in the past were Toho Zinc and Mitsui Mining. To some degree, we believe CAMC could have difficulties in regaining their previous market position due to the above mentioned entry of new production from Peru and Australia.

We found very little to go on as far as forecasting when, if or for how long, CAMC will produce lead/zinc concentrates. We therefore have no choice, but to proceed without this information. We are nevertheless hopeful that, prior to rendering our final recommendations, CAMC will be able to be more definitive about its plans.

3.0 WHITE PASS AND YUKON CORPORATION

3.1 General Considerations

The White Pass and Yukon Corporation Limited (WPY) is a company duly incorporated under the laws of Canada. It is a holding company which, through its subsidiaries, provides transportation and other services to the Yukon Territory. Operations of this particular company by the present owner commenced November 1, 1951, the date of acquisition of all outstanding shares and loan capital of the original White Pass and Yukon Railway Company Limited - a British Company, which has provided service to Yukon since the turn of the century.

On June 30, 1983, WPY made its most recent acquisition, 99% of the outstanding shares of Canadian Motorways Ltd. (Motorways). Motorways provides general freight services consisting of less-than-truckload and truckload services in Western Canada, Ontario, Quebec and the northern United States. WPY general freight operations, located in western Canada and Yukon, are currently being integrated with those of Motorways. Figure 3.1 depicts the present organization of WPY outlining all of its component divisions and companies.

The Parent

WPY is a wholly-owned subsidiary of Federal Industries Ltd. of Winnipeg (Federal), a public company. Federal purchased 50.2% of outstanding common shares of WPY in 1973. In 1976, Federal completed its purchase by buying the remaining 49.8% of outstanding WPY common shares. Federal owns a number of other companies in Canada.

Transportation Operations

WPY is capable of providing a fully-integrated ocean, rail and highway transportation system, linking Vancouver and the Yukon via Skagway, Alaska. Skagway is the closest year-round tidewater port for Yukon and it is here that WPY operates a terminal for its rail and marine operations. WPY owns: two 7,000 ton ships, both of which are combination cellular container-tanker vessels; a 110 mile railway (the Railway) between Skagway, Alaska and Whitehorse, Yukon; an oil pipeline which runs adjacent to the Railway, with principal bulk storage facilities at both Skagway and Whitehorse; marine terminallizing facilities in Skagway; a fleet of trucks and trailers; and numerous related land holdings and facilities. The ships, railway bulk terminal and ore trucks are not currently operating due to the shutdown of CAMC.

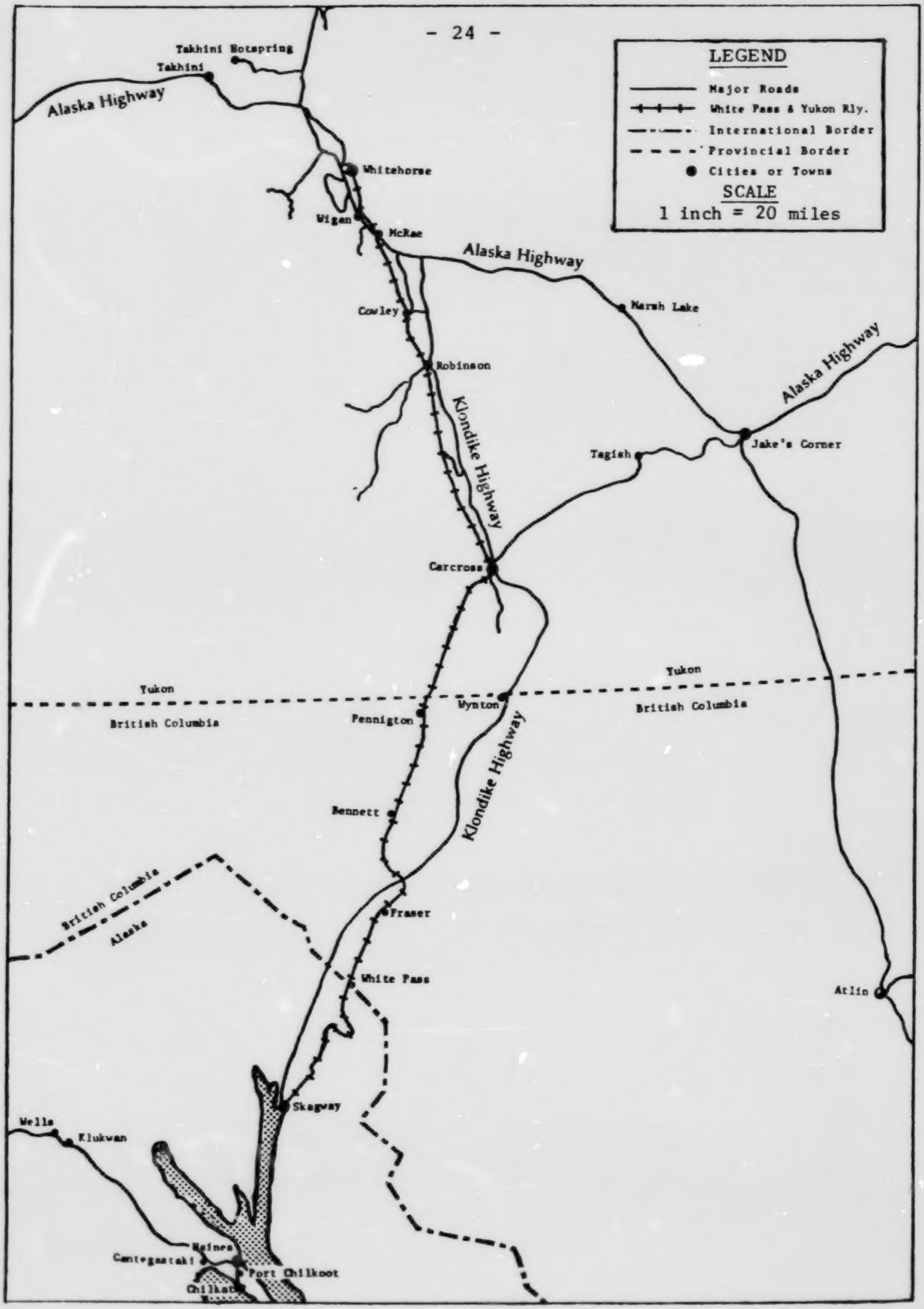
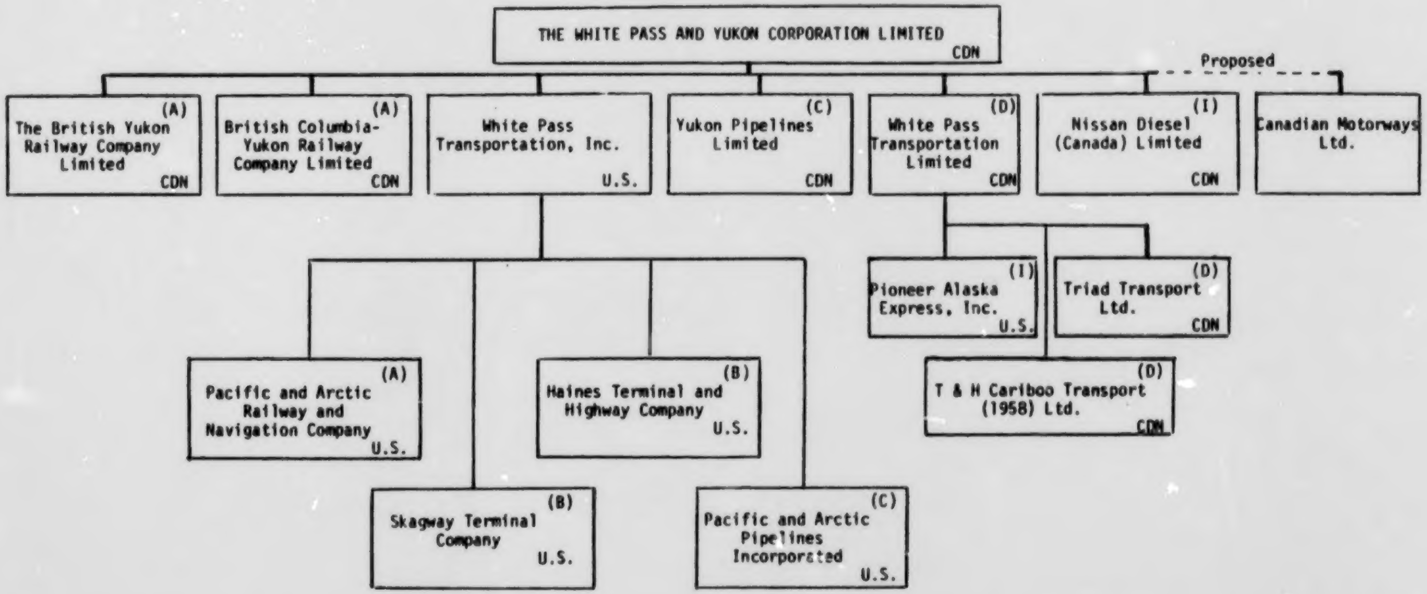

LEGEND
Major Roads
White Pass & Yukon Rly.
International Border
Provincial Border
Cities or Towns
SCALE
1 inch = 20 miles
Takhini Hotspring
Takhini
Alaska Highway
Whitehorse
Wigan
McRae
Alaska Highway
Marsh Lake
Cowley
Robinson
Klondike Highway
Alaska Highway
Jake's Corner
Tagish
Carcross
Yukon
British Columbia
Yukon
British Columbia
Pennigton
Wynton
Klondike Highway
Bennett
British Columbia
Alaska
Fraser
White Pass
Atlin
Skagway
Wells
Klukwan
Haines
Cantegantaki
Port Chilkoot
Chilkat

FIGURE 3.1

THE WHITE PASS AND YUKON CORPORATION LIMITED ORGANIZATION CHART


THE WHITE PASS AND YUKON CORPORATION LIMITED CDN
Proposed
(A) The British Yukon Railway Company Limited CDN
(A) British Columbia-Yukon Railway Company Limited CDN
White Pass Transportation, Inc. U.S.
(C) Yukon Pipelines Limited CDN
(D) White Pass Transportation Limited CDN
(I) Nissan Diesel (Canada) Limited CDN
Canadian Motorways Ltd.
(A) Pacific and Arctic Railway and Navigation Company U.S.
(B) Skagway Terminal Company U.S.
(B) Haines Terminal and Highway Company U.S.
(C) Pacific and Arctic Pipelines Incorporated U.S.
(I) Pioneer Alaska Express, Inc. U.S.
(D) Triad Transport Ltd. CDN
(D) T & H Cariboo Transport (1958) Ltd. CDN

(A) Rail Division - Skagway, Alaska to Whitehorse, Yukon
(B) Terminal/Dock/Tank Farm Operations (Alaska)
(C) Pipeline - Skagway, Alaska to Whitehorse, Yukon
(D) Petroleum Division (Yukon/N.W.T.)
    Ore Haul (Yukon/B.C.)
    General Freight - Trucking (B.C./Alberta/Yukon/N.W.T.)
    Marine Division (North Vancouver, B.C. to Skagway, Alaska)
(I) Inactive

Source: WPY

Rail Division

The WPY Railway was first built in the period 1898-1900, to service the Klondike Gold Rush. It runs from Skagway through northern British Columbia to Whitehorse along a 110.4 mile narrow guage (3'0") track. Railway equipment includes 23 diesel-electric locomotives, one steam locomotive, 306 freight cars, 37 tank cars and 34 passenger coaches. In 1981, the last full year of operations prior to the closing of CAMC, more than 69,900 tons of freight, 44,500 tons of petroleum products, 416,000 tons of mineral concentrate and approximately 55,000 passengers were carried by the Railway. The majority of the Railways' passengers are tourists attracted by the historic significance and scenic route of the Railway. The roadbed in Yukon and British Columbia is owned by WPY, while the roadbed in Alaska is held by way of easement.

The WPY Railway Division is divided into three legal entities. The British Yukon Railway Company carries on railway business in the Yukon. The British Columbia-Yukon Railway carries on the railway business in British Columbia, between the Yukon-B.C. border and the B.C.-Alaska border. Finally, the Pacific and Arctic Railway and Navigation Company, a subsidiary of the White Pass Transportation Inc., a U.S. corporation, carries on the railway business in the State of Alaska, between Skagway and the Alaska-B.C. border. Of the total railway length, 59.1 miles are located in Yukon, 30.9 miles in the Province of British Columbia, and 20.4 miles in the State of Alaska. Though the head office of the railway is situated in Whitehorse, Yukon, most of the important day-to-day operations of the railway, including its major car and locomotive maintenance facilities are in Skagway.

Freight handling facilities exist at each end of the Railway. WPY owns a rail maintenance and stores shop at Skagway, including its major freight car and locomotive maintenance facilities. The Whitehorse facilities include a passenger station, freight terminal and petroleum tank farm. Approximately five miles south of Whitehorse there is a transfer terminal, built primarily to service CAMC concentrate traffic. Located at Utah Spur, the terminal serves as a transhipment facility for both loaded and empty ore containers, between WPY trucks and railway cars.

The bulk handling terminal at Skagway is designed to handle CAMC lead/zinc concentrates and has a storage capacity for over 100,000 tonnes of concentrates.

Truck Division

WPY owns over 100 specialized trailers and 35 long wheel base diesel tractors for use in bulk haulage operations. WPY can service the industry by utilizing two-way haul equipment and specialized containers designed to maximize payload, prevent concentrate loss and minimize moisture contamination. Lightweight covered aluminum containers with payloads of up to 43.5 tons per truck unit were used for CAMC concentrate movement. WPY transported approximately 30,000 tons of asbestos from the Brinco mine at Cassiar, B.C., by road to Whitehorse, by rail to Skagway and finally to Vancouver by ship. Approximately 5,000 tons of lead/silver concentrate were also transported from the United Keno Hill mines at Elsa, Yukon, some 284 miles north of Whitehorse.

The closure of CAMC in 1982 forced WPY to suspend both the rail and most truck operations in Yukon. Some trucking operations have recommenced with the reopening of the United Keno Hill mine in August 1983. Concentrates from this mine are being hauled by WPY trucks to Fort Nelson, B.C., to be loaded onto the railway operated by B.C. Rail. WPY is also hauling asbestos from the Cassiar mine at Cassiar, B.C., by truck, to Vancouver at a current rate of 3,000 tons per annum.

Petroleum Division

WPY is a major distributor of petroleum products in Yukon, including heating oil, gasoline, diesel fuel, aviation fuel, lubricating oil and greases. These products are shipped from Vancouver year-round to Skagway via ship or barge. At Skagway, they are off-loaded into one of two bulk petroleum facilities which have an aggregate storage of approximately 218,000 bbls.

The slowdown of the Yukon economy over the past eighteen months has reduced the annual throughput of the Skagway petroleum facilities from a high of over 860,000 bbls. in 1980 to less than 570,000 bbls. in 1982. Petroleum and petroleum products are delivered to Whitehorse principally through a four-inch diameter petroleum pipeline which runs parallel to the WPY railway. When the railway is operating, gasoline and aviation fuel are transported on the railway.

3.2 The Collapse of the Yukon Mining Sector and its Effect on the WPY Railway

CAMC has been the largest single customer of WPY as noted earlier. CAMC concentrate traditionally made up between 65% and 70% of the total tonnage handled on the railway. CAMC was understandably the largest single revenue producer for the railway. In the railway's last full year of operation, CAMC concentrate tonnage represented 67.7% of total railway tonnage, and 46.9% of total railway revenues. Additionally, CAMC resupply needs represented 20.3% of the railway's northbound tonnage, and the 23% of the northbound revenues.

In the summer of 1982, not only did CAMC close down but so did other Yukon mines, including: the United Keno Hill mine at Elsa, and the Whitehorse Copper mine at Whitehorse, together representing 5.4% of WPY's tonnage and 3.3% of its revenue; the Canada Tungsten mine and finally the Brinco mine at Cassiar, B.C. representing 5.3% of WPY's tonnage and 1% of its revenues. These closures have resulted in there being insufficient freight volumes for WPY to continue operation of the Railway. Notwithstanding this, WPY continued operation of the railway for the summer of 1982, between June and October 8, 1982 carrying gasoline, a reduced level of freight and approximately 55,000 passengers. In this period, the railway experienced monthly losses in excess of $1 million for an estimated total four month loss in excess of $4 million.

It is interesting to note that, at a 55,000 per year level of patronage, total passenger revenues barely surpassed the wages and salaries necessary to run the operation.

On October 8, 1982 for the first time since the railway was constructed, save stoppages due to labour disruption and line outages, operations were suspended. The closure of the railway had a dramatic effect on Yukoners, at a time when they were reeling from the economic effects of the collapse of the mining sector. Whitehorse Mayor Flo Whyard described the closure of the railway as "psychologically shocking" to most Yukoners. To others, it meant a break in the last continuous link to the Klondike Gold Rush.

By letter, in October 1982, Mr. T. H. King, President of WPY officially notified the Railway Transport Committee of the suspension of railway service to the Yukon and the reasons therefor.

3.3 Canadian Transport Commission 1979 Inquiry

In 1979, at the request of the Minister of Indian and Northern Affairs, the Canadian Transport Commission conducted an inquiry into the WPY Railway and other surface transportation services into and out of Yukon, pursuant to Section 81 of the National Transportation Act. The Inquiry concluded "that the retention of rail services into the Yukon was clearly in the public interest". Additionally, the report made a number of recommendations aimed at improving railway management and equipment. It also recommended financial assistance, which later took the form of interest-free loans of $5 million from the Federal Government and $1 million from Yukon.

The Inquiry also concluded:

> "Our proposal of assistance falls far short of restoring the company to a fully profitable state. It seeks to provide by way of a loan or loans, an amount

> that will prevent the railway from being unable to fulfill its common carrier obligations. With the traffic which we believe will be available in the next five to six years, with continuing tough management and with a commitment by government to support economic and industrial development in the North, we are confident that the railway can once again return to a position of profitability.

We are presently satisfied that WPY has successfully implemented most of the recommendations contained in that report. Regrettably, the Railway has not benefited from all the equipment purchased through government assistance. Due to the suspension of railway service into Yukon on October 8, 1982, the new railway locomotives sit idle at the premises of the manufacturer, in Montreal. The inquiries' expectations as to traffic, simply did not materialize.

3.4 WPY Position

We met with senior officers of the WPY, including Messrs. T.H. King, President and Chief Executive Officer, Mr. G.W. Goertz, Vice President, Finance, Mr. F.H. Haskin, Manager, Industrial Relations and Personnel and Mr. Marvin Taylor, Manager, Alaska Operations. Also present at the meeting was Mr. John F. Fraser, Chairman of the Board and Chief Executive Officer of Federal Industries. Mr. Fraser, the spokesman for the parent of WPY stated that company's position.

In 1979, WPY management attempted to close the railway, arguing that trucking the ore to tidewater would be lower in cost, the position now taken by CAMC. The 1979 CTC Inquiry into the matter concluded that whether or not the road option was economic, opening the road would destroy the railway, to the long term detriment of Yukon, its mining sector, and WPY.

The program of recapitalization for the railway based on Federal and Yukon Government assistance of $6 million in the form of interest free loans, combined with the enforcement of legal requirements for freight rates on the ore haul movement to be compensatory, improved railway management and anticipated volume increases, due to new mine development, was a means of restoring the railway's viability.

WPY accepted the recommendations of the 1979 CTC Inquiry in good faith, and acted upon its recommendations to put the railway on its feet, as a going concern. WPY said "... we demonstrated our belief in that report and accepted the criticism and advice and constructively responded to them. We took the long term view and that was to fix the railroad as it was apparent from that report that it would not be allowed to close down and was needed for the future of the Yukon". Mr. Fraser stated that in doing so, WPY had taken a significant financial risk.

The accomplishments cited by WPY, since that time, included a major upgrading of the entire railway system, accompanied by a significant improvement in operating efficiency. Total railway employment had been reduced by 33% and the safety record of the railway was substantially improved. Equipment and roadbed were better maintained at lower cost, and trains demonstrated a much better on-time record, both in summer and winter operations.

This progress was possible, according to WPY, because rail revenues were stable and predictable, allowing management to make incremental progress toward a profit objective. This was possible notwithstanding the fact that the recapitalization recommended by the CTC was only partially approved by Governments.

Unanticipated events, however, have transpired since the release of the 1979 CTC Inquiry report, which, combined with compromises in implementing its recommendations, have resulted in less than a total solution to WPY's problems. As a result of those circumstances, the railway has failed to realize its potential, and its viability has been seriously affected. Traffic volumes from new mine development and the potential traffic from the Foothills Pipeline (Yukon) Ltd. northern gas pipeline proposal did not materialize. Despite major increases in freight rates derived from the compensatory freight levels on CAMC concentrate haulage, required by law, the railway continued to incur substantial operating losses.

Employing fair and reasonable revenue splits and cost allocations, the WPY railway has reported a total operating loss in excess of $8.5 million in the three years following release of the 1979 CTC report, 1980 through to 1982, plus an estimated loss of $1.2 million for the first six months of 1983, for a total of $9.7 million in the past four years. Mr. Fraser told us that it is unrealistic, unreasonable and unfair to expect Federal Industries shareholders to permit the continued "hemorrhaging" of the railway to place the entire WPY at risk. He said that the impact of WPY's performance on Federal and its shareholders had to be taken into consideration. He urged that the realiites of the situation be squarely faced and a solution developed that provides for a "permanent and long term solution to this problem". "A bandaid or short term answer will simply not be acceptable to our management, our Directors, or our shareholders, nor should it be...", he said. The bottom line of the WPY position is that any proposed solution to the losses being faced by the railway that does not assure that the WPY Railway at least breaks even, is no solution at all, unless, of course, the decision is reached to accept the demise of the railway.

3.5 WPY Proposals

Subsidization to Break Even Operation

WPY told us that it would require the Rail Division to "break-even" in future operations. "Break-even" is defined as the amount required to pay all operating costs, including depreciation plus the recovery of normal administration and finance expenses, after the deduction of revenue. WPY would like any shortfall of actual revenues from total operating expense, as defined, to be made up by a subsidy, payable by the Government of Canada, to a "break-even" level. WPY did not expect Government to provide subsidy for any operational losses other than tne amount required for the railway to "break-even". WPY is indifferent to whether the payment of a direct subsidy is made to itself up to the "break-even" level of revenues or whether a subsidy is paid to the CAMC, allowing it to pay a "break-even" revenue.

The company's justification for a subsidy is as follows:

> "Other operating divisions of the Company are at business risk, and as such, Company management can do what is necessary to operate them at a satisfactory return to shareholders. This could require the relocation of assets, discontinuance of a particular division, or disposing of segments of the particular operation. These options are not available to the Rail division. In addition to the net investment being fixed in its present location, there are several governing statutes such as the Railway Act in Canada, and others in the United States, which do not permit the variety of options, and could preclude permanent discontinuance of operations. Therefore, the Company has stated that only the Rail Division is contemplated to be an acceptable short term break-even operation. The other divisions will remain management and shareholder responsibilities."

Of course, no subsidy would be required if WPY shippers accepted rates that were set by WPY to ensure a "break-even" position. This matter is at the heart of our later cost comparison analysis.

Sound Care and Maintenance

At our request, WPY provided an estimate of the cost of maintaining its railway in a state of readiness to accommodate CAMC traffic, on reasonable notice. WPY responded that it is presently maintaining a state of readiness in its railway facilities awaiting the reopening of the CAMC mine. It stated that, with reasonable notice, the railway would be ready to haul concentrate again. It noted, however, that the longer the mine remains closed, the longer it would take to reopen the railway, due to the dispersal of its qualified operating and management personnel from Whitehorse and Skagway.

In its submission, WPY stated that "on an annualized basis" the WPY Railway "...will absorb operating expenses based on projected 1984 expenses..." of $2.2 million ($3.1 million, if depreciation is included). These figures include costs for labour, materials, services, rentals, fuel, utilities, financing, property tax, administration, legal fees, and insurance. Recent layoffs reduced these figures by $372,000 according to WPY. WPY also stated that "...these costs could be reduced significantly with a bottom line number of $250,000 for a complete shutdown scenario." At a later date, when questionned, the Vice-President, Finance, for WPY stated that he had made a mistake and that this figure should be $411,000/year instead of $250,000/year and that this figure only represented costs of labour, materials, services, rentals, fuel, and utilities and does not include costs of financing, property tax, administration, legal fees and insurance. WPY also stated that it "...cannot afford to continue to subsidize the Rail losses to this extent, therefore some Governmental assistance must be forthcoming to maintain the rail and personnel in place." We will discuss this type of compensation package in more detail later on.

Sale Price

If it were decided that the WPY railway is no longer necessary, WPY claimed that it would be "...incumbent upon Government to purchase the railroad from the Company and do with it as it wishes."

WPY stated that it would "...sell the railroad for the share value of approximately $9.9 million...", under the following provisions:

> "1. Passenger and freight operations cannot be sold independently.
>
> 2. An easement for the pipeline must be obtained.
>
> 3. Operational land and assets only. Non-operational land and petroleum facilities would remain the property of White Pass.
>
> 4. All debts (to White Pass) in the three rail companies would be repaid at sale date or some mutually agreed future date."

As most readers would appreciate from reading the above sale value and conditions, we initially assumed that the sale price was $9.9 million. Upon questionning at a later date, the Vice-President, Finance for WPY explained that:

a) The $9.9 million is for the shares of the three railway companies;

b) The purchaser of the shares would receive only the operational land and operation assets;

c) The non operational assets and land would be retained by WPY Corporation;

d) The purchaser would accept all obligations financial and otherwise that are now the obligations of the WPY Railway owners including about $13 million in debt to WPY Corporation plus an approximate liability of about $10 million to U.S. labour, severence pay and claims related to pension rights, if the railway was abandonned.

The sale price clearly is at minimum $23 million not $9.9 million and likely much more.

Lease

At our request, WPY provided a description of the circumstances under which it would seek to lease its railway facilities and equipment and Skagway dock facilities.

WPY responded that it would consider leasing the railway line facilities and rolling stock for $1 million U.S. annually after (presumably plus) depreciation. This would amount to about $2.2 million per year - presuming there are no other hidden costs. However, WPY would require the lessee to post a security bond to ensure that it is protected from any litigation resulting from any accident or default by the lessee. WPY would also require that the railway, roadbed, rolling stock and other assets be returned at the end of the lease in like condition to condition at the inception of the lease.

Management Agreement

With respect to C) SALE, or D) Lease, of the railway, WPY would be prepared to enter into a management agreement with the purchaser, or lessee, to manage the railway operations.

3.6 WPY Railway Problems

The WPY Railway was built over eighty years ago and had proven itself in continuous operation until the 1982 suspension of service. The railway is in reasonably good operating condition, with generally adequate equipment, and is on the books at considerably less than replacement costs. Both management and labour are well experienced and committed to the system. Since 1978, when new management was appointed, major upgrading has been accomplished throughout the system and operating efficiency has improved.

The loss of WPY's major shipper introduced a critical new problem not faced before. That problem was the dependence of the railway on base tonnage to cover its relatively high minimum cost of railway operations. The "minimum cost" of railway operations in this context comprises all of those costs incurred if the railway is operated irrespective of tonnage. It has been earlier stated that CAMC was the WPY railway's largest single customer, traditionally providing the railway with between 65 and 70% of the total tonnage handled on the railway. Additionally, CAMC's northbound grinding media, chemicals, explosives, supplies and fuel, formed an important part of the railway's northbound tonnage. Although CAMC has traditionally been a "captive shipper" to the WPY Railway within the meaning of the Railway Act, in effect, the WPY Railway has been, and is, economically captive to CAMC. Clearly, there cannot be a viable railway operation, without CAMC. Given the very narrow traffic base of the railway, and the shrinkage of this traffic base due to mine closures, traffic losses to truck competition, and the current recessionary effects on the Yukon economy, the CAMC base traffic is vital to the continued existence of the railway as a viable entity. Without CAMC traffic, WPY cannot economically operate other freight or passenger services.

The high minimum costs of WPY Railway operations stem from the necessity of the railway to maintain its own roadbed, in difficult mountainous terrain and heavy snow areas. The sharp curves and steep gradients are as great, or greater, than those experienced on any railway. The age of its roadbed and equipment, the cost of the intermodal transfer operation, and its labour agreements also contribute to the high minimum cost of operations.

When the tonnage carried is large, the average unit costs are low. But when traffic volumes are low, the reverse is true.

There are two basic outcomes resulting from this simple cost structure: a) if the Yukon economy expands, the railway has the potential to reduce its unit costs by spreading its total costs over a greater traffic volume; b) alternatively, if the Yukon economy remains depressed, and the traffic volume remains low, the average unit costs would remain high.

A base tonnage can be defined as a level of freight traffic sufficiently large to carry the railway's costs to a "break-even" point (which has been defined earlier). Clearly, the railway offers the potential for reduced freight rates on tonnage handled beyond the "base tonnage".

The WPY has demonstrated to us its potential to reduce freight rates on ore traffic significantly, with increases in tonnage above a base tonnage level. However, at tonnage levels below the base tonnage level, the railway is not an economically viable operation and will incur financial losses at the current rate structure. WPY has stated that freight rates in Yukon are already high, consequently it does not have the option of increasing freight rates to compensate it for low traffic volumes, without jeopardizing the competitive position of existing and potential mining operations. We do not completely concur with this position.

3.7 Railway Labour Content and Labour Matters

WPY stated that its largest single problem is its high labour content and the cost thereof. To verify this contention, we requested the WPY to provide us with a breakdown of the railway division operating costs, in terms of major cost components. The breakdown, in terms of relative percentages is as follows:

Labour	58.2%
Materials	14.9%
Services	6.5%
Fuel	8.3%
Utilities, Taxes & Licences	1.0%
Depreciation	6.4%
Leases	0.1%
Other	4.6%
	100.0%

Clearly, the labour component of total operating costs is by far the most significant element, representing 58¢ out of every expense dollar. WPY is of the opinion that the largest problem with labour costs are the current collective agreements, which provide for what it considers to be "unrealistically high wages and benefits". More importantly, WPY maintains that these same labour agreements include numerous "protection" clauses which "hamstring" operations and adversely affects its efficiency. For instance, although the State of Alaska has recently revoked the full crew law, (one of the last states in the U.S.A. to do so), WPY has not yet been successful in negotiating the full crew clause out of its current union contracts. The impact of this is apparent when one considers that the railway continues to require a 5 man crew on the U.S. portion of the railway, especially having regard for the very high salaries these employees earn.

Based on current labour contracts, existing prior suspension of railway service on October 8, 1983, WPY provided us with the level of railway employment that would be necessary to handle the traffic volume it deemed necessary for a recommencement of railway operation. These are shown below:

	Winter Operation		Summer Operation	
	Cdn.	U.S.	Cdn.	U.S.
Supervision	8	18	12	22
Rail Unit Teamster Local 959	-	50		53
Longshore Unit Teamster Local 959	-	12		12
Trainmen (UTU) Local 1757	-	23		38
Trainmen Teamster Local 213	11	-	16	-
Maintenance of Way Teamster Local 213	23	-	23	-
Bennett Local Teamster Local 213	8	-	14	-
	50 (32.6%)	103 (67.4%)	65 (34.2%)	125 (65.8%)
TOTAL	153		190	

We determined the average annual costs to WPY per employee for each class of employee as follows:

	Summer Operations	Winter Operations
Supervision and Non-Union (US & Can.)	$ 67,059	$ 70,152
Rail Unit Teamsters Local 959 (US)	$ 73,811	$ 73,920
Longshore Unit Teamsters Local 959 (US)	$ 96,020	$ 96,000
Trainmen (UTU) Local 1757 (US)	$ 98,420	$ 101,217
Trainmen Teamsters Local 213 (Can.)	$ 67,500	$ 62,182
Maintenance of Way Teamsters Local 213 (Can.)	$ 43,826	$ 43,826
Bennett Local 213 (Can.)	$ 32,571	$ 33,000

These average employee costs are expressed in Canadian dollars, and reflect monthly, hourly and daily salary levels for the employees, escalated by payroll burden factors (depending upon government regulation and collective agreements), and overtime provisions for some union positions.

The above table appears to confirm one observer's comment that Skagway enjoys "the highest per capita wages in Alaska." Secondly, it shows a substantial wage differential between Canadian and American employees performing the same general functions. WPY has stated that "such labour costs are a burden the railway cannot bear and still remain competitive with trucking in a low volume, volatile market".

WPY railway labour costs are relatively fixed, according to WPY partly due to the realities of the railway operation, but primarily due to the contractual obligations with its employees. WPY stated that the significance of these labour contracts to railway viability has been apparent to it for several years and it has attempted to correct them at the bargaining table. WPY maintains it merely seeks the right to manage its work force so that employees are called out only as needed and paid only for such work as they actually perform. It does not view its demands as destructive to its Skagway employees interests, nor have the demands been designed to take advantage of the CAMC shutdown. WPY claims that many of its proposals have been on the table since 1980. It appreciates, however, that its Skagway employees are "understandably reluctant to give up wage and rights they have won over many years of collective bargaining".

Given the difficult financial situation in which WPY finds itself and the alledged competitive threat to the continued existence of the railway and the jobs of its employees, we met with senior officials of the Unions involved and with employee representatives in Anchorage, Skagway and Whitehorse. The purpose of these meetings was not to argue or support the Company's position, but rather to explain the situation and guage the employees' reaction to it. We are cognizant that prevailing wages and working conditions were gained through free collective bargaining to which the WPY was a party. The extent to which it presently considers that these factors are out of line with current reality is in large part to a past weakness of WPY management at the bargaining table where "labour peace at any price" prevailed. WPY traditionally caved in to employee demands. WPY acknowledged that this is a correct representation of the behaviour of its earlier management.

It is important to note the environment under which these onerous wages and working conditions were negotiated. Wages in the North are traditionally higher than average, given climate, remoteness and cost of living factors. In Yukon, the wage pace setter has been the CAMC mine operations. In Alaska, wage setters have been Prudhoe Bay and the Trans Alaska Pipeline projects. The WPY railway had to compete with these developments, match wages and working conditions, to retain its employees. Labour costs and benefits at CAMC were higher than any other lead zinc mine in Canada.

In this context, it is relevant to report on the reaction of the employee representatives and Union officials.

At the time of our meetings four of the five prevailing collective agreements between WPY and its employees had expired. Only the contract with its U.T.U. employees was still in force. Employee morale was low, many having been unemployed since the suspension of the railway service on October 8, 1982. For many, Social Security was running out and with the summer tourist season nearing its end, so were employment opportunities. With the uncertainty of a near term reopening of the railway, many were considering "pulling up stakes" and leaving.

The general impression we were left with was that half of the employees were prepared to offer concessions to assist a possible reopening of the railway. This was certainly the message of the Local 959 Teamster Rail Unit, although Local 959 Teamster Longshore Unit were not quite as forthcoming with offers of concessions.

U.T.U. 1757 were totally against any concessions. The U.T.U. representatives maintained that they have a contract in force until June of 1984, to which they are not prepared to consider changes. This contract provides for the "full crew" requirements and U.T.U. Local 1757 were adamant that they are not prepared to offer any concessions on this issue.

All employees, however, complained of an inability to get WPY to the bargaining table. Without a contract or at the very least serious negotiations, they were not inclined to hang on. We therefore requested and received from WPY management a commitment to "sit down at the bargaining table at any time, in any place".

Since those meetings in early June, we understand that the Railway and its Teamster employees are at least talking. We are unaware of the substance of these discussions, nor is it within our authority or jurisdiction to become involved in labour matters. It is regrettable, however, to report that there have not been any similar meetings between the WPY and its U.T.U. employees, to our knowledge.

3.8 The Foreign Exchange Problem

Foreign exchange differentials present an additional problem to the WPY Railway. They are a non-productive expense, completely beyond WPY's control. The problem exists because of the international nature of the Railway. The portion of the railway in the United States contains 65-70% of its employees and its major equipment maintenance facilities. The wages of these employees and the materials and supplies used by them, are paid for in U.S. currency. Each dollar of this expense costs the Company roughly an additional 25 cents, because of the exchange differential between the U.S. and Canadian dollar. The total cost of foreign exchange from June 1981 to May 1982 for the Railway division was $699,000.

3.9 Start-Up Cost

WPY was requested to provide an estimate of the time and cost of reopening the Railway. The estimate including inspection and repair of passenger equipment, preparation and reactivation of locomotives, and general repair of rail line due to non-use, etc., is $186,000. The Corporation, however, did indicate that the longer railway service remains suspended, the more expensive it will be to reactivate.

3.10 WPY, The "Ham in the Sandwich"

In the course of this Inquiry, the WPY Railway was the subject of much conversation which led us to believe that the WPY Railway is the proverbial "ham in the sandwich". On one end, the railway is deemed redundant and inessential by its largest single customer (CAMC), on whom WPY's economic survival is dependent. On the other end, its employees are suspicious of its motives and question its commitment to the railway. Few appreciate the financial predicament in which it finds itself. In this context, the apparent adversarial relationship between CAMC, WPY and the railway-related unions seems to us to be a major deterrent to the long term lasting solution sought by WPY and, indeed, to the resolution of the problems faced by CAMC and the railway employees.

4.0 POSITIONS OF OTHER INTERESTED PARTIES

4.1 TRUCKING INDUSTRY

TRUCKING SERVICES

Through the course of the inquiry, we met with four trucking companies which operate in Yukon. These included: Arrow Transportation Systems Inc., Canadian Freightways Ltd., Trimac Transportation Group Limited and Yukon Freightlines Ltd., a subsidiary of the Kingsway Group. Each held strong views with respect to the issues being addressed by us. Before summarizing their opinions, a brief review of the make-up of each company is warranted.

Arrow Transportation Systems Inc.

Arrow Transportation Systems Inc. is a Canadian company operating in Alberta, British Columbia, the Yukon Territory and into the U.S. The company has grown at least a hundredfold since its humble beginnings 60 years ago, establishing branches throughout the two western provinces and Yukon. It has launched seven major divisions in the course of the years including: Arrow Bulk, Arrow Highways, Arrow Heavy Haul, Arrow Materials Handling, Arrow Customized Freight, Arrow Crane and Rigging and Arrow Mining Services.

Arrow's head office is situated in North Vancouver with terminal operations located in B.C., Alberta and Yukon. Besides providing charter and contract services through the coordination of its highway, bulk and general freight divisions, the company offers an intermodal scheduled service into Yukon from Vancouver. The intermodal service arises from the relationship between North Arm, a Vancouver barging company, and Arrow. North Arm provides barging service between Vancouver and Stewart where the general freight is transferred to Arrow's trucks for distribution in Yukon via Whitehorse.

In order to move Cassiar asbestos tonnage, Arrow operates 13 B-train trucks per day between Cassiar, B.C. and Stewart, three times per week. Arrow's barge, Arrow Marine No. 1, receives the covered asbestos containers at Stewart for the coastal haul to Vancouver. The barge is capable of handling general freight and petroleum products, originating in Vancouver and destined to Whitehorse via Stewart and returning with containers of Cassiar asbestos fibre.

Canadian Freightways Ltd.

Canadian Freightways Ltd. is a subsidiary of Consolidated Freightways Ltd., a major U.S. trucking company.

Canadian Freightways Ltd. is headquartered in Calgary and serves western Canada through 16 terminals in Alberta, British Columbia and Yukon territory. At Vancouver, Edmonton, Calgary and Whitehorse, the company operates bonded sufferance warehouses. It also offers highway service to Alaska.

The company provides a diversified trucking service, operating as a heavy and contract hauler as well as a common carrier of general freight. General freight is handled in less-than-load (LTL) and truckload shipments. Service into Yukon is presently scheduled twice per week, down from once per day, from all points. This service reduction is a direct result of the poor economic climate in Yukon as Canadian Freightways' tonnage dropped 50 percent to Yukon in 1982.

Trimac Transportation Group Ltd.

Trimac provides major liquid and dry bulk hauling services in North America. In Canada, Trimac is the only bulk carrier operating nationally. Combined Canada and U.S. operations give Trimac the broadest operating authority in North America for bulk commodity operations.

The company is a Canadian owned public company with the following Canadian subsidiaries: Maccam Transport Ltd., H.M. Trimble & Sons Ltd., Oil and Industry Supplies Ltd., Westland Carriers Ltd., Columbia Bulk Carriers Ltd., Municipal Tank Lines Limited, Mercury Tanklines Limited, Adby Transport Limited, J. Kearns Transport Ltd., Territorial Transport (1968) Limited, Tank Lines Limited, Transport Soulanges Inc., and North Star Transport Ltd.

Since Trimac operates as a contract carrier, its operations to Yukon are not scheduled. Movements include shipments of cement, construction equipment, petroleum products and propane from Fort Nelson to Whitehorse, Faro and Watson Lake handled by H.M. Trimble and Sons Ltd.

Recently, Trimac secured a 4 million gallon annual fuel haul contract with Gulf Canada to provide service between Haines, Alaska and Faro, Yukon for CAMC.

Yukon Freightlines Ltd. (YFL)

Yukon Freightlines Ltd. is a wholly owned subsidiary of the Kingsway Group, a Canadian company owned by the CSL Group who were recently acquired by Federal Navigation, the FEDNAV Group. The company is a for-hire motor carrier operating in Alberta, British Columbia, Yukon and the Northwest Territory.

YFL has been operating in Canada since 1961 and has its head office in Whitehorse. It operates from two terminals in Alberta (Edmonton and Fort McMurray), one terminal in B.C.

(Vancouver), one terminal in Yukon (Whitehorse) and two depots in British Columbia and the Northwest Territories (Cassiar and Inuvik respectively). The company operates with 45 company-owned power units, 18 owner/operator power units and 108 trailers.

Scheduled services are offered three times a week from Edmonton and Vancouver to Whitehorse with two days delivery from Edmonton and three days from Vancouver. General freight shipments include milk, refrigerated products, general supplies and medicine. Approximately half the northern movements returned with a backhaul of either general freight from Whitehorse or asbestos from Cassiar. In 1982, YFL generated 46,600 shipments totalling 49,200 tons of freight.

VIEWS ON TRUCK COMPETITION

The trucking industry has evolved to the point where it has become extremely competitive with the WPY route for both heavy bulk and general freight movements into and out of Yukon.

With respect to bulk transportation, the most noticeable example of the competitiveness of truck operations in a traditional railway market is the highway haul of Cassiar asbestos to Stewart, B.C. handled by Arrow Transportation Services. More recently, WPY had experienced difficulty in maintaining its market share in the transportation of bulk petroleum products. As noted earlier, Trimac Transportation was awarded the Gulf contract to haul 4 million gallons of fuel to CAMC mine site at Faro, a traditional Chevron/WPY market. This, coupled with the loss of the fuel contract of 6 million gallons for Cassiar Asbestos to Arrow, has reduced WPY's market share to 8 million gallons to Whitehorse or 44 percent of the total market, which WPY at one time held exclusively.

The traditional WPY marine/rail movement of general freight from Vancouver to Whitehorse was beginning to show signs of weakening as the dominant method of resupply transportation to Yukon prior to the suspension of the WPY Rail Division in 1982. Because of the reduction of WPY intermodal service from 7 days to 10 days to 14 days transit time from Vancouver, time sensitive traffic was moved over to trucks. Even though transportation costs increased, business customers in Yukon accepted the fact as it was considered cheaper to pay the higher transportation costs than to increase inventory, space and change ordering routines.

The locations of major physical distribution centres has changed over the years and have impacted adversely on the WPY traffic mix. Edmonton and Prince George have begun to compete with Vancouver as distribution centres. Consumer goods produced or manufactured on the Prairies and in Eastern Canada are flowing through Edmonton to northern points by truck. Heavy competition between the trucking companies, including WPY trucking, is taking place for the movement of these goods.

Cassiar/Stewart Asbestos Haul - A Historical Review

In 1979, Cassiar Asbestos signed a 5 year agreement with Arrow Transportation Services Inc. to provide truck transportation services between Cassiar and Stewart, B.C. for the movement of asbestos fibre, traditionally a commodity largely moved by WPY. Cassiar decided to alter its method of transportation as a means of removing the risk of U.S. litigation against the asbestos company and the seizure of its product at a U.S. port by looking for an all Canadian route. The company requested bids from a variety of trucking interests and decided to go with the lowest bidder, Arrow. Arrow's bid was nearly ten dollars less per ton on the asbestos movement and nearly eleven cents less per gallon on the fuel oil resupply movement than the next lowest bidder, WPY Truck Division.

In our meeting with Cassiar, the company expanded on its experience with the Arrow haul. Annual road bans, unforeseen weather problems, truck accidents and the on-going road maintenance and upgrading requirements had all contributed to a less than optimal service. Although the original agreement stipulated that 80,000 tons of asbestos would move by Arrow's trucks to Stewart annually, Arrow was unable to live up to the obligation. In 1981 and 1982, Arrow handled 50 percent of the annual Cassiar production, 30 percent went the traditional WPY route and 20 percent moved directly from mine to Vancouver by truck as backhaul for trucks returning from Yukon. In 1983, 66 percent moved through Stewart with the remaining one-third split between truck to Fort Nelson/rail to Vancouver via the BCR and all truck to Vancouver.

The Cassiar/Arrow contract allows for rate escalation based on proven need, and Arrow approached Cassiar for rate increases in the first few years a number of times due to unforeseen circumstances. The initial truck/barge system failed due to the inability of the devised barge system to accommodate all the traffic. A third barge and the requirement for an alternate barge handling site, forced costs to increase to the point where revenues were insufficient to earn a return. In the first year of the agreement, the rate to haul asbestos fibre increased 15 percent over the originally contracted rate.

Many of Arrow's problems were attributable to the difficult road and weather conditions prevalent along the 335 mile Highway 37 route. Arrow complained fiercely to the B.C. government to improve the road so that the company could live up to its contract. A tremendous amount of public money, in excess of $100 million, was budgeted and spent for extensive upgrading, improved communications and road maintenance programs by the B.C. government. Although some trucking interests believe that reduced speed in critical areas such as bridge approaches and grades would circumvent the requirement to upgrade, it is the B.C. government's belief that it is the integrity of the road base, including drainage capability and subgrade compactness, which determines the road's durability to withstand heavy sustained loads. The B.C. government presently budgets between $4,400 and $5,500/km annually to maintain Highway 37 which is largely an industrial road for Arrow and Cassiar. This translates into an average of $2.6 million/year, including equipment depreciation, labour and overhead or nearly $22/day/mile.

In retrospect, it can be stated that both Arrow and the B.C. government encountered many teething problems in developing a viable northern transportation service in the early years of the Cassiar/Arrow contract. However, in the past two years, Cassiar has been generally satisfied with the service as performance has improved significantly and rate escalations have stabilized to the point where increases have been based on proven need annually and not unexpected revenue shortfall due to fixed cost escalation. As well, the B.C. government has developed Highway 37 into a viable and safe route through extensive upgrading improvements.

The Arrow/Cassiar agreement expires in December, 1984 and therefore Cassiar will be looking at new bids in June of next year for the transportation of their product to Vancouver. The company stated that it is looking to reduce its transportation costs as it is facing heavy market competition from Quebec's Thetford Mines who face no inland transportation costs. Cassiar also stated that not only is Arrow interested in maintaining the service, but other trucking companies have approached Cassiar on a preliminary basis. As well, WPY Corporation is very interested in attracting all the traffic back to its intermodal operation and would offer a very attractive bid to reach that end if the railway was in a position to operate again at that time.

Two important aspects should be discussed at this time regarding the issue of Cassiar asbestos transportation as it relates to the transportation requirements of CAMC.

The first is that Cassiar initially wanted to reduce its transportation costs much the same as Cyprus Anvil presently wishes. The company accepted bids from trucking companies and decided to go with the lowest bidder on an untried highway haul. The basic rate in addition to extraordinary cost increases pushed the total transportation bill on the highway haul close to what the railway would have charged. In addition, a tremendous amount of public money had to be spent to upgrade and maintain the highway route largely for Cassiar and Arrow's benefit.

The company is looking to reduce its transportation costs again five years later and will be looking at alternative routes. Although the WPY railway is inoperative presently, it may operate in the near future. If so, Cassiar will have the benefit of a competitive White Pass bid utilizing the traditional truck/rail land movement. This option would likely not be available to Cyprus Anvil in the event that the company chose a trucking option after production startup if it was allowed to do so. A CAMC trucking scenario would likely spell the end of the railway, thereby effectively locking the mining company into an untried and potentially more expensive highway haul forever.

The second point which should be brought to light is the risk which governments face in developing and maintaining a highway route for the benefit of industrial traffic. The B.C. government has poured a tremendous amount of public funds into Highway 37 at risk to the extent that if Cassiar traffic returned to the WPY truck/rail route, little opportunity would exist for the government to recoup the public investment through the provincial tax system. The same may hold true if CAMC were allowed to truck on the Klondike Highway since expensive capital projects would eventually be required to facilitate a safe truck operation. If transportation costs are as significant to CAMC production decisions, then a rapidly escalating and potentially expensive highway haul, as demonstrated by the Cassiar/Arrow experience, may cause CAMC to withdraw from production indefinitely, resulting in little opportunity for governments to recover their road reconstruction investment.

THE TRUCKING INDUSTRY'S VIEWPOINT

A recurring theme prevalent in our meetings with the various trucking interests was the issue of potential subsidy to the WPY railway.

A subsidy to a selected carrier is viewed by the trucking industry as discriminatory as it distorts the marketplace, preserves the inefficient and defeats competition. The trucking industry fears that either a direct operating subsidy or a capital infusion to the railway would eventually find its way into the WPY's other divisions, allowing rates to be reduced, thereby creating an unfair advantage to WPY over its competitors.

The general consensus among trucking companies is that Federal Industries made a conscious decision to buy the White Pass Corporation and should have been aware of the risk when it made that decision. The trucking industry does not want to see Federal Industries "bailed out from a bad business decision".

The industry feels that the Klondike Highway should be opened to commercial trucking and if that spells the end of the railway, so be it. The present rail haul is viewed as a logical truck haul, in any event, because of the short distance and the use of trucks on the Faro-Whitehorse segment.

The trucking industry similarly feels that their share of the costs of providing highway infrastructure at public expense is recouped by the tax system including fuel taxes, license fees and increased tax revenues generated from greater economic activity.

4.2 Alaskan Public Interest

The issues before us in this inquiry and our recommendations may have a significant impact on employment in southeast Alaska. The positions held by the Alaskan Government with respect to, for instance, road limits on trucking in Alaska constrain certain options that may otherwise be open to consideration. The position of unions in Alaska can significantly affect the costs of transportation from Faro to U.S. tide-water ports. The positions of the cities of Skagway and Haines and their citizens are also of importance to us because of the potential impact of our recommendations on them. For these reasons, we purposefully sought to meet with representatives of the Alaskan Government, Skagway and Haines and the unions involved to obtain their views. The following is a condensed summary of the results of numerous public and private meetings in Alaska.

The Alaskan Government

The Alaskan Government position summarized herein should not be construed as a formal political position. Rather, it is a compendium of views obtained from staff employed by the Government of Alaska, the House Representative for southeast Alaska and the staff of one Senator for the subject area. In truth, this position is that of a concensus of the views of knowledgeable individuals concerned with the Alaskan public interest.

The Alaskan Government realizes the historic role which the port of Skagway has played in the development of Yukon. A commonality is viewed between the region about Skagway and Yukon in terms of remoteness and reliance on the transportation industry. If the WPY railway is abandoned, there is serious concern about the continued existence of Skagway. There is also doubt that Skagway could survive solely on the basis of seasonal tourism. Even if the WPY railway was abandoned and trucking was permitted on the Alaskan portion of the South Klondike highway, the railway jobs would not be replaced in number by jobs in trucking - most trucking jobs would go to Canadians. As well, if major trucking to Haines or elsewhere was adopted and the WPY railway was abandoned and there was no trucking on the South Klondike Highway, "that would be the beginning of the end for Skagway".

Skagway, as a community, needs to determine whether or not it wishes to serve as an export port for Yukon or to promote tourism. We can only conclude from this position, there is a view that Skagway can do something about their own future without Government intervention. In this context, a number of people in Skagway -particularly those in organized labour have their own destiny in their hands in terms of making the necessary concessions to assist WPY to be more competitive.

The Alaskan Government recently repealed the law requiring a minimum of five man train crews. Whether the WPY railway operates with less than a five-man crew in the U.S., depends on whether the WPY negotiates successfully with the U.T.U. Such concessions would enhance WPY Railway's competitive position, potentially to the benefit of all people in Skagway.

The Alaskan Government is willing to consider anything that it could do to assist. It is likely, however, that an ongoing subsidy would be unacceptable. Capital grant assistance may not, however, be out of the question. In this respect, the Canadian Government and Yukon recently granted WPY a $6 million interest-free loan which could have been to the indirect advantage of Alaskans in Skagway. Alaska contributed nothing at that time.

Specific positions as to the opening of the South Klondike highway in Alaska will be dealt with later herein. However, suffice to say that the position will likely be one where existing weight limits would continue to be enforced and all costs should be reimbursed by the truck user or the shipper.

Skagway

We held private and public meetings with the people of Skagway and, in general, we were sincerely impressed with the warm and concerned positions held by the average citizen. In particular, at the public meeting, there were several passionate pleas from individuals that were well-founded and moving. A desire by many was to maintain a historic environment in which to live, rather than to exploit, a feeling that was refreshing and honest. We were asked to remember the people of Skagway, to have concern for their way of life and to sustain Skagway "as a living town". There were those, as well, who realized that the harsh economic realities before them required a change to assist WPY so as to in turn ensure themselves a livelihood through the non-tourist season. There were yet others who, for one reason or another, appeared not to want to concede, but rather to maintain the historic "boom town" mentality of doggedly taking advantage of the situation, grabbing all that can be got - at any expense to themselves and their neighbours. Although it is really not our place to sit in judgement over anyone, we sincerely believe that between the three corners of these three mentalities rests a mid-point where Skagway can not only survive, but thrive with greater long term security. The State of Alaska may be able to assist in this matter, as well.

We met with a group formed in Skagway that had the objective of finding that mid-point of reason, the "United for Skagway Committee". The formation of this Committee, we feel is significant to Skagway as it includes, amongst others: a) municipal officials and community leaders; b) the Teamsters Union; and c) the U.T.U. It forwarded to us its resolution which is duplicated below:

RESOLUTION BY THE UNITED FOR SKAGWAY COMMITTEE

"Whereas, the White Pass and Yukon Corp. has provided passenger and freight service between Skagway, Alaska and Whitehorse, Yukon by narrow guage railroad since 1898; and

WHEREAS, This service was suspended in October, 1982 because of the decrease in freight caused through the closing of the Cyprus Anvil Mine at Faro, Yukon; and

WHEREAS, The railroad had advised the travel industry in the fall of 1982 that it intended to operate passenger service during the 1983 summer tourist season, and did accept a large volume of advance reservations; and

WHEREAS, It was announced by the railroad on January 14, 1983 that there would be no service this year because the revenues from passenger service would not cover operating costs; and

WHEREAS, It was announced by the railroad at an earlier United for Skagway Committee meeting that the railroad would open for the 1984 tourist season; and

WHEREAS, On a July 5th statement by White Pass and Yukon Corp. President, Tom King, that the railroad would not open for the 1984 season; and

WHEREAS, The White Pass and Yukon passenger rail service is one of the most popular attractions for visitors to the region, for its historic significance, spectacular route, and the unique transportation provided; and

WHEREAS, The Railroad is a significant factor in sustaining the growth in tourism to Alaska and the Yukon, and directly influences the economy of Southeast Alaska by attracting visitors to the region;

Be it firmly resolved; That the United for Skagway Committee still supports opening of the Railroad and the current weight restrictions on the Klondike Highway, and urges the Canadian Transport Commission to encourage the White Pass to live up to their firm commitment to open the Railroad for the 1984 tourist season or sooner, if possible".

Other views expressed by various interests in Skagway are itemized below:

1) the WPY railway is a big asset in drawing tourists, however, they will still come to Skagway without it;

2) if WPY keeps the railway closed, there is enough interest in Skagway and elsewhere to operate a seasonal passenger train to Fraser;

3) WPY has a "bad name" with tour operators due to their untimely cessation of the passenger train and a $4/head tax on cruise ship tourist departures;

4) ore truck operation will be to the detriment of Skagway tourism due to the danger of travelling the South Klondike Highway;

5) WPY has "put all its eggs in the Cyprus basket" and has "gone to sleep" in the general freight market; and

6) there is a general mistrust of WPY in Skagway.

It is worthwhile to point out here that certain citizens of Skagway have been treated very well by WPY. It appears that management and railway and longshore labour have received extremely high salaries and benefits. For instance, recent salaries, wages and benefits have amounted to an annual average payment of $74,000 (Canadian) for each Teamster Rail Unit employee, $96,000 (Canadian) for each Teamster Longshore Unit employee and $101,000 (Canadian) for each U.T.U. trainman and engineer. Comparable Canadian WPY employees make far less.

We believe that Skagway has a chance to dictate its own destiny. However, that depends on the reasonableness of unioned employees who have benefitted in the past from WPY seeking "labour peace at any price". Those days are gone. If the old mentality remains, there may be no railway, and hence no Skagway - at least not as it has been. It is not reasonable, in our minds to expect the Canadian Government to subsidize the sizeable Alaskan wage differential.

The Unions

In the course of this inquiry, every attempt was made to meet the Union representatives and spokesmen for the employees of WPY. American employees of WPY, Rail and Longshore Units are represented by General Teamsters Local 959, State of Alaska. The collective agreements for these employees have expired, and employee representatives for the Rail Unit indicated a strong interest in sitting down with WPY to sign a contract. Railway trainmen and engineers in the U.S. are represented by the United Transportation Union (U.T.U.) Local 1757. The U.T.U. contract does not expire until June of 1984 and union officials indicated to us that they were not prepared to reopen their contract.

Teamster Local 213 represents all Canadian employees of the WPY. Their contract with the railway has also expired. They too are anxious to return to the bargaining table, but question the necessity of doing so, given the situation of the Yukon mining sector and the dim prospects for a reopening of the railway. Most employees of the railway have expressed frustration at this inability to get the Railway to the bargaining table. Like the railway, they indicate a willingness to sit down at the bargaining table anytime, anywhere, but for reasons unknown to us, this apparently has not happened to date.

Haines

We met with the mayor and leading citizens of Haines and were extremely well received by them. What struck us most about Haines was the professional, dynamic and business-like attitude of the people we met. In particular, their enthusiasm towards the development of the community as a major port was striking.

In general, Haines agrees with Skagway's position against the use of the South Klondike Highway. The city of Haines views the port of Haines as the natural exit/entry port to points north and as an access to the existing year-round road structure.

Haines is a primarily transshipment point from marine related facilities to overland routes into Yukon and Northern Alaska. The continuing "Shakwak project" (paving and straightening of the Haines Highway and the Alaska Highway) represents an improvement to the past highway access. Highway connections to Haines are proven and are open year-round. Last year the highway was only "down for five days" during the entire winter.

The Alaska Marine Highway system provides six ferries to connect Haines to other ports of call, four times per week in winter and seven times per week in summer. This system services both passengers and cargo. The ferry terminal was constructed in 1973 and includes a new ramp facility, constructed in 1983.

Continuous barge service is provided into Haines including SEASPAN Barge Company of Canada, and Foss Alaska of the U.S. The Lutak Municipal Dock, completed in March 1982, offers capability for roll-on/roll-off services as well.

The Haines Dock is located on protected deep water and comprises a 160' x 16' angler bridge, breasting dolphins and winch pads for the horizontal handling of barge cargo. The existing dry cargo dock has just been entirely resurfaced. Vessels up to 400 feet in length and 100 feet plus beam can be handled. Six acres of temporary storage are available and larger, longer terminal yards (60 acres) are available nearby with minimal investment.

Standard Oil Company and Union Oil Company distribute petroleum distillates through Haines directly to purchasers or through local retailers. Haines has a tank farm. Most recently Gulf Oil of Canada, which has a bulk storage facility in Haines has signed a contract with Trimac of Calgary to haul fuel from Haines to Whitehorse for Cyprus Anvil mines - offering opportunities for backhaul from Yukon to tidewater.

Haines as it now stands was developed to support the trucking industry, pipeline construction and road construction. Service and maintenance facilities for trucking are therefore numerous.

The community public infrastructure and social facilities were built for Army use when Haines served as a base of operation. Now that the base has closed, facilities exceed substantially the demands of the existing population. Expansion of Haines would require little additional social infrastructure expense. Existing investments by the city of Haines in dock facilities and the State and Federal investments in the Shakwak Highway project "... avoid the need for massive expenditures to upgrade transportation access and facilities to accommodate sizeable growth in marine/highway traffic." The city of Haines is proud of its potential in this area and argues strongly that it is an economic competitor as a tidewater access to and from Yukon with future economies of scale to be realized by traffic growth to North Alaska and development of local receiving properties.

Haines also has tourism potential as a cruise ship stop-off point at the Chilkat dock and for through traffic on the Haines and Alaska Highways. The Chilkat dock would have to be expanded eighty feet to accommodate large cruise ships.

Haines is also proud of the fact that since 1950 there has never been a strike that closed its port facilities. In this respect, Haines is supportive of facility users and has, for instance, used volunteers to tie up vessels instead of using 5 union employees demanding $35 per hour when 2 people could realistically do the job.

Haines is extremely anxious for new development to use its facilities as the effective unemployment in Haines presently ranges from 40 to 45%. Tourism is viewed by Haines as having a great potential, particularly with stop-offs of the Majestic Explorer and Prince George and development of bus tours, from/to Haines.

4.3 Yukon Public Interest

We met with many people in Yukon, representing Territorial/Federal/municipal Governments, business, and the public. In general, we found that the public at large did not express nearly the active concern for or creative interest in the issues before us, as did the people of Skagway and Haines. The attitude was largely one of "what's the Federal Government going to do about it" typified by one person at one of the poorly attended public meetings in Whitehorse who exclaimed "what the Government should do is give Yukon a mega project". On the other hand, the local and territorial Government expressed a serious concern for their respective jurisdictions as did a few of the business representatives and organizations, however, the latter had few solutions to offer. One major food distributor, Kelly-Douglas even refused to see us - the only business or individual who took such a position.

The following is a general summary of the views of the individuals we met.

Whitehorse

Our view of the public interest in Whitehorse is guaged by the response to our two public meetings, and our discussions with the mayor and the Chamber of Commerce.

Mayor Flo Whyard painted a very realistic picture for us. Our summary of her major points follow:

1) The economy of the Yukon should not be based solely on Cyprus Anvil and the vagaries of international lead-zinc prices. "There was life here before Cyprus Anvil, there will be life after". The use of taxpayers' dollars to support a project which is not economic is like "throwing money down the drain". Tax dollars would be better spent on the Dempster Highway and on the Canol Road.

2) Whitehorse should develop into more of a base center for rest, relaxation and supplies distribution - particularly related to the Beaufort Sea developments. Emphasis should be on housing, schools and recreational facilities.

3) The WPY is a part of the Whitehorse and Yukon community. In the past, WPY Directors have "put their hands in their own pockets" to make the payroll. When the Governor General visited, WPY made train and equipment available to Whitehorse at no charge. Similarly, when the 40th Anniversary of the Alaska Highway occurred, WPY renovated "old 73" and offered an engine and four coaches for the

celebration. The truckers offered nothing. "Even the airlines donate Christmas trees to the City".

4) The difficulty that WPY finds itself in is not entirely due to the take over of Federal Industries. "The American Unions have held Canada to ransom". As an example, in 1960, six Skagway workers shut down the railway leaving steel and food to rot on the docks. Union demands have been unreasonable.

5) In the same vane, one of the reasons for the closure of Cyprus Anvil has been labour costs. Mine workers there "... had the best deal in Canada ..." causing the mine to be priced out of the market during the world slump in lead-zinc prices.

6) There is no question the closure of the WPY railway and their trucking operation has resulted in loss of jobs and possibly higher food and consumer goods' prices, however, the railway closure resulted more in a psychological impact than in an economic impact.

7) The closure of the WPY railway has had little or no impact on tourism in Whitehorse or Yukon. The new tourist buses from Skagway are cheaper and quicker than the railway. "Ma and Pa" are really not told what they're going to do and see when they arrive. Tourists can be easily "flim flammed" by tour operators. The closure is, of course, a disappointment to railway buffs but in terms of an impact on tourism as a whole "railway buffs are equivalent to mountain climbers". If the railway is still closed next year, that will not result in reduced tourism in Whitehorse or Yukon.

8) The truck-rail-water routing of WPY is more economical than trucking. The railway operations should therefore be maintained. The Klondike Highway was and is intended for tourist traffic not heavy ore trucks. "Its crazy to truck to Haines" due to union problems and the 300 extra round-trip miles to Faro. Heavy ore trucks on the Klondike Highway would "kill tourism" (in terms of tourists that go to and come from Skagway).

The Whitehorse Chamber of Commerce generally acknowledged that WPY is a vital transportation network for Yukon and that if money is being considered to upgrade the South Klondike highway that it would be more beneficial to be spent on the railway. Other specific points follow:

1) since railway closure, the cost of imported goods to Yukon has risen dramatically due to trucking costs;

2) the continued closure of the railway will have a detrimental impact on Yukon tourism, its mining industry and its developing service industry resulting in a population shift from the territory.

The Yukon Visitors Assoc. and Yukon Tourism presented salient positions with respect to tourism and the issues before us as follows:

1) the cessation of the WPY tourist passenger train has had no perceptable impact on Yukon tourism but may have an effect on the number of cruise ships stopping at Skagway in the future;

2) a tourist train would "not make it alone";

3) abandonment of the railway would reduce Whitehorse's tax base;

4) subsidies to WPY to secure passenger and freight service at the earliest possible date should be made available;

5) the South-Klondike Highway should remain as a seasonal tourist road;

6) the port of Skagway should receive consideration under the customs and tax Acts of the United States and Canada to be declared a Free Port.

The Yukon Chamber of Mines (YCM) position was that most of Yukon mineral deposits do not have "good access to transportation routes". Mineral development in Yukon therefore "really boils down to a policy decision by Government". The YCM feels it is the Government's role to provide transportation and power infrastructure.

We met with representatives of the Carcross Indian Band (CIB) in Carcross, Yukon, to obtain local information on the WPY railway, Klondike Highway and tourism. CIB also provided two reports related to Carcross tourism development.

Carcross is a small community which occupies the narrow corridor of table land that separates Bennett Lake from Nares Lake. Its name was derived from "Caribou Crossing", a reference to the great herds of caribou that once crossed the Nares River during fall migration. It is 74 kilometers south of Whitehorse on the Klondike Highway and when the WPY railway was operating, Carcross was a source of railway labour and a passenger/tourist stop-off point.

Presently, bus tours stop in Carcross for about twenty minutes. The new owner of the General Store and Leasee of the railway station receives the major benefits of tourist dollars according to CIB. Most souvenirs sold are imported - not Indian crafts. Displays of traditional folk-lore, Indian dancing and Indian craft sales which took place when the WPY railway was operating, have stopped. CIB children who used to sell rocks to tourists for 10¢ are not presently permitted to do so on General Store land.

When WPY railway was operating, CIB members were employed in Carcross and at a crew station 28 miles down the track. WPY used to employ 30 CIB members for track maintenance and train operation - 12 in Carcross. Now, only 3 band members are employed in the General Store and Rail Station and none are employed in bus tour activity or trucking.

Since the WPY railway closed, food and consumer goods' prices have risen in Carcross. Food prices are, however, known to be less in Whitehorse. In general, the closure of the railway has resulted in loss of jobs and higher prices for CIB. Existing bus tours and prospective ore trucking on the Klondike Highway will not improve the CIB position.

With respect to the South Klondike Highway, CIB said that they were told originally that a road was to be constructed to truck Venus mine ore to Carcross for transshipment to the WPY railway. Subsequently, the road was extended to Skagway as a tourist road at which time CIB negotiated cash and certain land trades with DIAND so as to permit construction. As part of this agreement, CIB claimed that: a) Venus trucks were to be limited to 40 tons; b) band members were to be given jobs on the road; and c) no other heavy trucking would occur unless the agreement was re-negotiated. At present, only one CIB member works on the road in summer and yet the Yukon Government transports workers from Whitehorse to Carcross for such work. Some of these "outside workers" board at the Caribou Hotel in Carcross.

CIB claims that roughly one mile of the road is on their land.

CIB also claims that the recent increase in bus traffic on the Klondike Highway has degraded the quality of the road from Carcross to Whitehorse, intimidates drivers of private vehicles and poses a safety hazard to local children. Buses apparently travel at 60-70 m.p.h. on the Klondike Highway. The bridge at Carcross is seen to be in "bad shape" - due to buses exceeding a 12 m.p.h. speed limit (speeds of 30-40 m.p.h. are common). CIB claims that R.C.M. Police will not enforce the speed limit. The result is that the board surfacing on the bridge is breaking up.

Furthermore, the CIB pointed out that the difficulties attributable to bus traffic will be multiplied if heavy ore trucks are permitted to use the South Klondike Highway. As well, they explained that the road is not designed for such trucks and that there would be difficulties in snow removal at "the summit" and that maintenance costs would be high.

CIB did not seem to hold high hopes of substantial employment increases for band members arising from heavy ore truck traffic.

Amongst a number of other points the Yukon Transport Public Utilities Board (YTPUB) held the following views:

1) operating authorities for business with CAMC have been granted to 130 trucking companies;

2) from a truckers point of view, the route to Haines is safer and easier to operate on than the South Klondike Highway to Skagway.

The Yukon Liquor Corp. (YLC) commented on the situation since the closure of the WPY railway. They have experienced:

1) greater product theft in transit;

2) greater damage claims (18-20% increase);

3) increased inventory requirements;

4) increased rates (2¢/cwt increase); and

5) increased backhaul rates (17-20% increase).

If WPY reopened YLC would use it for its products.

The Yukon Supply and Services Branch forwarded the following points with respect to their incoming freight.

1) as soon as the WPY railway closed their transportation bill began to rise and is now 40% higher than the last year when WPY operated;

2) inventories have had to increase; and

3) the railway used to be the price setter in transportation, but now the field is wide open.

Public interest was sought by us through two large advertisements in local Whitehorse papers which invited interested citizens to two public meetings. Unlike that in Haines or Skagway, public turnout in Whitehorse was dismal. Of the handful of people that showed up, a good proportion was from the press. We do not believe that the low attendance was due to a lack of advertising - it simply demonstrated a lack of interest in the issues by Yukon citizens or a general apathy on the part of Yukoners for such public meetings. In Skagway, for instance, there was easily five times the turn-out with the same amount of advertising.

Be that as it may, the following points raised reflect the views of those of the Whitehorse public that were present:

1) There is not enough traffic for both the WPY railway and a South Klondike Highway trucking operation. It is the people of Yukon who will pay to open the South Klondike Highway to heavy trucking and it would be better to put that money in the railway and leave the road to private vehicles for which it was originally constructed.

2) CTC should consider the merits of extending the WPY railway to Faro - perhaps with standard guage all the way to Skagway. This of course would cost an immense amount of money.

3) If the South Klondike Highway was open to heavy ore trucks, movement should be at night during tourist season.

4) CTC should determine why WPY survived for 85 years and why it is now failing.

5) Railway investment is a long term investment. Truck investment is short term and hence can adapt and be more flexible to demand.

6) The WPY people and their parents are a "subsidy family".

7) Maintenance of WPY railway is important for Alaska Gas Pipeline project.

8) Government should put people back to work at the Cyprus Anvil Mine and keep the railway.

9) Truck management will tend to tighten shipment schedules forcing drivers to drive faster creating dangerous conditions particularly with tourists ... "who leave their brains at home ...".

10) B-train truck configurations are not safe on the Klondike Highway.

11) A seasonal tourist train is feasible.

12) Due to depression, it is cheap to do construction now - e.g. railway extension "up through MacPass".

13) "Government should give the Yukon a Mega project".

14) "Labour relations have caused all the problems".

15) CTC should not over emphasize the plight of "that bunch in Skagway" relative to the problems of Yukoners.

16) It takes 15 minutes for snow to drift over the Klondike Highway at the Summit in winter, rendering trucking in winter impossible.

17) Truckers driving heavy ore B-Trains have little choice in summer on bad grades if tourists stop their vehicles to look at the view. "It's either them or us".

4.4 Tour Companies

The tour companies with whom we met included: Westours and Princess Tours.

Not all of the tour companies servicing Yukon destined tourists operate in the same way. For instance, Westours is a fully integrated "package tour" operator, comprising cruise ship routes up the coast, inland hotel operations and interconnecting motor coach operations. Princess Tours, on the other hand only operate the coastal cruise tours and purchase hotel and motor coach space from Westours. Atlas is an inland motor coach tour operator.

The primary objective of these tour companies is to maximize the utilization of their respective tour components (i.e. cruise ships, hotels and motor coaches). This requires considerable advance planning in order to obtain an efficient lowest cost operation and to overcome logistical difficulties in moving tourists quickly from place to place. Such planning is done a year in advance to facilitate the necessary promotional literature for their tours.

The WPY passenger operation from Skagway to Whitehorse and from Skagway to Fraser/Bennett was an integral part of the inland tours prior to the opening of the South Klondike Highway in 1979. Since 1979, however, through the acquisition of motor coaches by tour companies to operate between Skagway and Whitehorse, the tour companies are no longer totally dependent on WPY to get to Whitehorse and beyond. Now, the motor coach operations are faster, cheaper and totally within the timetable control of the tour companies. However, the age of most cruise ship tourists leads them to associate with the era of Gold Rush and rail transportation. Nostalgia is thus an important attraction of the WPY railway. This, coupled with the variety of transport modes, leads tour operators to view the WPY passenger train as a worthwhile adjunct to their tours. The tour operators pointed out that the WPY passenger train is in no way essential to the marketability of the tours.

If the WPY passenger service no longer existed, it would not reduce the number of tourists handled according to the tour companies. They explained that Skagway and Yukon are attractions in themselves.

In response to the claims of others, the tour companies explained that the loss of the WPY passenger service would not on its own divert cruiseships from Skagway to Glacier Bay or Haines. Glacier Bay is restricted as to the number of cruise ships/year. Haines, as a port stop-off point, does not lend itself to an efficient use of other inland tour assets.

One tour operator, in response to a suggestion made by others, noted that a seasonal passenger train operation from Whitehorse to Carcross "was a nice touch, but wouldn't increase business" for tour operators.

Another interesting comment was that retail outlets in Whitehorse were not open at convenient hours for tourists.

At present, some tours only offer sufficient time for tourists to bus from Skagway to Whitehorse, see the Frantic Follies, sleep one night and return to Skagway.

5.0 TOURISM ANALYSIS

5.1 General Considerations

The two major Yukon tourist themes, wilderness and the Klondike Gold Rush, have attracted increasing numbers of tourists to Yukon. Since 1970, for instance, the number of tourists entering Yukon has doubled and tourist expenditures have apparently increased five-fold as shown in table 5.1. With the mining industry temporarily down, tourism is Yukon's number one industry, representing about $ 51 million per year. The actual number of tourists going to Yukon each year is unknown. The number of border crossings into Yukon is an indication of the maximum possible number of tourists entering Yukon. Actual tourist count is much less than from our point of view.

Table 5.1

YUKON TOURISM ACTIVITY

	Persons Entering* Yukon (000's)	Persons Entering* Yukon Apr./Sept. (000's)	Estimated Expenditures ($000,000)
1970	156.4	N/A	10.17
1971	183.7	N/A	11.94
1972	270.9	N/A	21.77
1973	311.4	N/A	25.02
1974	325.3	N/A	26.16
1975	318.1	269	27.34
1976	306.8	254	20.88
1977	300.2	258	29.07
1978	362.9	308	33.00
1979	362.2	309	36.00
1980	340.4	289	38.00
1981	386.8	330	51.00
1982	365.1	N/A	51.00

Source: Tourism Canada and Yukon Tourism Industry Highlights 1982.

* Border crossing data.

5.2 Tourist Transport Modes

Border crossing data indicate that roughly 60-65% of all people entering Yukon do so by personal vehicles, 20-25% by air, 10-12% by bus, and 4-5% by rail. Over the years, this share of personal transportation has varied as seen in Tables 5.2 and 5.3.

The marked decline in use of rail by passengers and the corresponding increase in bus patronage since 1977 is important. The WPY railway share of incoming passenger traffic to Yukon dropped from 16% to 4% between 1977 and 1982 with a corresponding increase in bus share from 4% to 11%.

Table 5.2

TOURIST TRANSPORT MODE

(000's)

Year	Personal Vehicles	Air	Bus	Rail	Other	Total*
1975	202.0	61.6	15.2	38.6	0.6	318.1
1976	186.0	63.4	14.0	42.9	0.6	306.8
1977	169.1	68.0	13.6	48.6	0.9	300.2
1978	229.4	78.6	15.0	39.2	0.8	362.9
1979	214.6	79.2	35.5	31.3	2.2	362.2
1980	193.0	90.6	38.9	15.0	2.0	340.4
1981	227.3	94.1	46.7	17.0	1.6	386.8
1982	241.3	66.3	41.1	15.1	1.3	365.1

Source: Yukon Tourism Industry Highlights

* May not add due to rounding.

Table 5.3

TOURIST MODAL SHARE

(%)

Year	Personal Vehicles	Air	Bus	Rail	Other
1975	63.5	19.4	4.8	12.3	0.2
1976	60.6	20.7	4.6	14.0	0.2
1977	56.3	22.7	4.5	16.2	0.3
1978	63.2	21.7	4.1	10.8	0.2
1979	59.1	21.8	9.8	8.6	0.6
1980	56.7	26.6	11.4	4.7	0.6
1981	58.8	24.3	12.1	4.4	0.4
1982	66.1	18.2	11.3	4.1	0.4

5.3 Significance of Skagway to Whitehorse Route

Border crossing data indicate that 16-17% of persons entering Yukon do so from the direction of Skagway. Although this percentage has fluctuated over the years between 13% and 20%, there is no noticeable trend to indicate an increase or decrease in the significance of this entry route.

The opening of the South Klondike Highway between May 7 and October 15, 1979 caused a brief surge in usage of this route, but did not result in a sustained growth in usage relative to other entry rates.

Of significance, however, is the impact of opening the South Klondike Highway on the WPY railway passenger patronage between Skagway and Whitehorse. This patronage more than halved between 1978 and 1980, with a corresponding increase in bus traffic. In the last year of operation, WPY railway only captured 25% of the Skagway to Whitehorse passenger traffic, with 53% by road and 22% by bus.

Table 5.4

SKAGWAY TO WHITEHORSE TRAFFIC

(000's)

Year	Personal Vehicle	Bus	Train	Total	% of All Yukon
1975	2.3	0.1	38.6	41.1	12.9
1976	2.7	0.0	42.9	45.5	14.8
1977	2.5	0.1	48.6	51.1	17.0
1978	3.3	0.1	39.2	42.7	11.8
1979	25.6	15.7	31.3	72.6	20.0
1980	24.5	15.4	16.0	55.9	16.4
1981	31.9	16.1	17.0	65.1	16.8
1982	32.1	13.6	15.1	60.8	16.7

Table 5.5

SKAGWAY TO WHITEHORSE TRAFFIC

(%)

Year	Personal Vehicle	Bus	Train
1975	5.6	0.3	94.1
1976	5.9	0.1	94.1
1977	4.8	0.1	95.1
1978	7.7	0.3	92.0
1979	35.3	21.6	43.1
1980	43.9	27.5	28.6
1981	49.1	24.8	26.1
1982	52.8	22.4	24.9

From another perspective, the economic significance of the South Klondike Highway and Skagway to Whitehorse tourist traffic is worthwhile to evaluate. The estimated per-head tourist expenditure in Yukon is as shown below.

Table 5.6

PER-HEAD EXPENDITURE

Year	Persons Entering Yukon (000)	Estimated Expenditure (000,000)	$/Head Expenditure
1975	318.1	27.3	86
1976	306.8	20.9	68
1977	300.2	29.1	97
1978	362.9	33.0	91
1979	362.2	36.0	99
1980	340.4	38.0	112
1981	386.8	51.0	132
1982	365.1	51.0	140

The above per-head expenditure is a pure statistical figure that is probably very low. A per trip tourist expenditure of $140 is clearly not realistic. As noted earlier, border crossing data do not necessarily reflect tourists entering Yukon. Neither would we expect a foreign cruise ship tourist to spend the same as a tourist operating a private vehicle and camping in Yukon. Nevertheless, if one presumes the per-head expenditure is relatively accurate for all entry points, it can be used to evaluate the relative economic significance of each entry route.

Table 5.7

ECONOMIC SIGNIFICANCE OF SKAGWAY TO WHITEHORSE TOURISTS

Year	No. of Persons Entering Yukon	Per-Head Expenditure	Significance Skagway-Whitehorse ($000,000)	by WPY No.	by WPY Significance ($000,000)
1975	41,086	86	3.53	38,647	3.32
1976	45,521	68	3.10	42,855	2.91
1977	51,133	97	4.96	48,609	4.72
1978	42,652	91	3.88	39,242	3.57
1979	72,571	99	7.18	31,293	3.10
1980	55,921	112	6.26	15,967	1.79
1981	65,051	132	8.59	16,999	2.24
1982	60,810	140	8.51	15,128	2.12

The economic significance of tourists entering Yukon from Skagway is currently $8-9 million. In the last year of WPY railway operation, its passengers represented an approximate expenditure of only $2 million per year. Although statistically correct, we believe it would be naive to presume this expenditure figure reflects reality. We consider the economic significance of tourists entering Yukon from Skagway to be far greater than $8-9 million and the expenditure of those entering by rail to be much greater than $2 million per year.

5.4 Practical Considerations

We heard from many people that, if the WPY railway did not operate its seasonal tourist train, then:

1) the port of Skagway would cease to have the desirability as a cruise ship stop-off to such places as Glacier Bay; and

2) with reduced cruise ship stop-offs in Skagway the tourists entering Yukon would diminish to the particular detriment of Whitehorse;

The tour operators, and others cited earlier, expressed a different point of view:

1) Skagway is an attraction on its own and Glacier Bay is restricted as to the number of cruise ships that can enter;

2) the WPY Railway is a beneficial adjunct to the tours but does not dictate either the desirability of stopping off in Skagway or of travelling on to Whitehorse and other Yukon points;

3) One of the complaints often heard from tourists is the fact that Whitehorse shops close early and there's little chance to purchase items, particularly considering the tight tour schedules;

4) Patronage of the WPY tourist train is essentially price insensitive as it makes a small percentage difference in the tour package price, however, to the extent that tourists ride the WPY, they do not ride the buses of vertically integrated tour operators. Utilization of those buses with possible loss of profits and perhaps greater logistical difficulties are negative aspects of the WPY tourist train, from a tour operators point of view.

On balance, it appears to us that the impact of the WPY tourist train has little, if any, effect on the Yukon tourist business. This is true only by the apparent soundness of the

Yukon tourist expenditure in the period when no train operated. The loss of the train would, however, seriously decrease the potential quality of a tour package.

Although no hard evidence was found to support the following views we observed the following:

1) there appears to be potential for increases in the tourist expenditure in Yukon, particularly in Whitehorse, through provision of more locally run commercial attractions;
2) most major commercial attractions and facilities appear to be operated by U.S. firms employing seasonal staff a proportion of which are from the U.S.; and
3) more aggressive marketing of retail outlets particularly for local authentic crafts and increased store hours would be beneficial.

6.0 COMPARATIVE COST/BENEFIT ANALYSIS OF TRANSPORT OPTIONS

6.1 General Considerations

Herein, we intend to estimate the costs and benefits of transporting CAMC concentrate and backhaul traffic on each of four possible routes at CAMC forecasted traffic volumes. We also intend to identify the sensitivity of costs of moving CAMC traffic to possible variations in certain criteria having a bearing on those costs.

Throughout this comparative analysis, we have used, as a numerical and methodological basis, the submissions of CAMC and its consultant TRIMAC and of WPY, as well as information and cost estimates from the Yukon Department of Highways, the Canadian Department of Public Works and the U.S. Department of Transport and Public Facilities. The former two submissions were provided to the Board in confidence and, where possible, the confidentiality of the detailed contents therein has been respected. However, where certain data or information was deemed absolutely necessary to justify the results of our comparative cost analysis, we had no choice but to release same.

In order to present a comprehensive and understandable comparative cost analysis, we had to take certain liberties with the data provided by CAMC and WPY. This took the form of extrapolating and interpolating certain data in order to make individual submissions compatible for purposes of comparison. As well, this took the form of expanding the data to be applicable to circumstances beyond which the original data was intended, so as to estimate the sensitivity of costs to variations in the basic assumptions upon which the original data was based.

The approach taken herein is to evaluate the aforesaid costs and sensitivities for each of the following routes in sequence and then to compare same:

1) WPY truck-rail route from Faro to Skagway;

2) CAMC truck operation from Faro to Skagway;

3) CAMC truck operation from Faro to Haines; and

4) CAMC truck operation from Faro to Stewart.

All costs are based on 1983 dollars and, although the absolute cost may not therefore be valid for future years, the relative costs would be equally accurate for comparative purposes. In this respect, every attempt was made to ensure that the methods and approaches employed represented "real-world" commercial practices.

The CAMC submission, dated September 1983, contained their estimate of concentrate and backhaul volumes as follows:

Table 6.1

CAMC TRAFFIC VOLUME ESTIMATES

(000 tonnes)

Year	Concentrate	Backhaul	Total
1985	383	57.9	440.9
1986	457	59.6	516.6
1987	459	58.5	517.5
1988	534	51.7	585.7
1989	515	50.3	565.3
1990	496	49.4	545.4
Total	2,844	327.4	3,171.4
Average (000 tonnes/year)	474	54.6	528.6

* presuming CAMC will start-up in Fall 1984 and the decision to commence production is made in April 1984.

For purposes herein, a "Base Case" scenario is premised on an average CAMC concentrate tonnage of 474,000 tonnes/year and an average backhaul tonnage of 54,600 tonnes/year. We conclude that, as CAMC is the most knowledgeable of its own operations and potential, these figures can fairly be assumed to be the probable traffic related to CAMC operations.

6.2 WPY Truck-Rail Route

The history and description of this route has been presented earlier in Section 3.0.

WPY provided the Board with two submissions, one dated July 7, 1983, the other dated September 30, 1983 - the latter being a response to the Board's request for detailed cost information.

With respect to the WPY Rail Division costs, the "Base Case" is premised on the following criteria provided by WPY.

A. Traffic (Rail)

The traffic and rates to be carried and charged by WPY Rail Division for purposes of our "Base Case" cost calculations will be as in table 6.2.

Table 6.2

ASSUMED WPY RAIL TRAFFIC VOLUME

Commodity	Volume (tonnes/yr)	"Budget Rate" ($/tonne)
CAMC Concentrate "Base Case"	474,000	Break-Even Rate***
Northbound Freight*	57,153	56.32
Southbound Freight	6,350	22.20
Cassiar Asbestos	25,401	6.47
United Keno Hill Ore	4,536	26.15
Gasoline	6,800,000 gal.	10.4¢/gal.
Passengers	40,000	$62.50/pass.**

* Includes CAMC backhaul volume.

** Average expected fare/passenger.

*** WPY agrees to transport CAMC ore at a rate that would result in the WPY Rail Division obtaining a total revenue that would cover all its expenses.

B. Rail Labour Contracts

"Base Case" costing will also be categorized in accordance with a) existing rail labour contracts, and b) WPY estimates of the "optimum" labour concessions that might be attained.

With respect to the WPY Truck Division costs, the "Base Case" is costed in accord with data and methods used in costing other all-truck options to ensure compatibility on the basis of a 3-year trucking contract from Faro to Whitehorse with low and high truck cost scenarios based on contract lengths of 3 years (depreciation on trailers over 8 years) and 1 year respectively. We believe the "probable" truck cost scenario should be based on a three year contract with all equipment depreciated over those three years.

WPY Rail Division

The WPY submissions provided rail costs for a variety of scenarios, none of which corresponded exactly to the "Base Case" CAMC traffic estimates. These costs are reproduced below, corrected from the original WPY submissions in accord with discussions with WPY and estimated by us for scenarios where no costs were provided.

Table 6.3

WPY RAIL DIVISION EXPENSE ESTIMATES

(000 $)

CAMC Concentrate Tonnage (tonnes/yr.)	Optimum Labour Concessions	Existing Labour Contracts
326,587	16,913	20,678
453,592	16,537	20,218*
474,000***	16,839**	20,588*
566,900	18,216	22,271*
680,389	19,442	23,770

* Estimated based on proportion of expenses in 326,587 tonne/yr. case provided by WPY.
** Interpolated estimate between figures provided by WPY.
*** Base Case.

It should be noted here that rail labour has the potential to make realistic labour concessions arising in cost savings to WPY's shippers from about $ 3.7 to $ 4.3 million per year.

WPY stated that it would require the Rail Division to "break even" in future operations. "Break-even" was defined by WPY as the amount required to cover all operating costs including depreciation plus recovery of normal administration and finance expenses. That is, the estimated expenses shown in Table 6.3 must be covered to satisfy WPY. That, to us, is not an unrealistic expectation.

Table 6.2 presents the basis of revenue to be received by WPY for freight and passengers other than CAMC ore. The revenue so derived is approximately $6,856,000, according to WPY. If these revenues are extracted from the expenses shown in Table 6.3, the residual expense must be derived from revenues for the movement of CAMC concentrate for the Rail Division to "break-even" (assuming no subsidy is paid). This residual expense is itemized below.

Table 6.4

WPY RAIL DIVISION RESIDUAL EXPENSE

(000$)

CAMC Concentrate Tonnage (tonnes/yr.)	Optimum Labour Concessions	Existing Labour Contracts
326,587	10,057	13,822
453,592	9,681	13,362
474,000 (Base Case)	9,983	13,732
566,900	11,360	15,415
680,389	12,586	16,914

The revenue that CAMC would pay WPY under the WPY assumed north-bound freight rate of $56.32/tonne would be $3,075,072/yr. (54,600 X 56.32). The total CAMC transportation bill for the use of WPY Rail Division, for WPY Rail Division to break-even (assuming no subsidy), would therefore be as follows.

Table 6.5

CAMC TRANSPORTATION BILL FROM WPY RAIL DIVISION

(000$)

CAMC Concentrate Tonnage (tonnes/yr.)	Optimum Labour Concessions	Existing Labour Contracts
326,587	13,132	16,897
453,592	12,756	16,437
474,000 (Base Case)	13,058	16,807
566,900	14,435	18,490
680,389	15,661	19,989

The effective average rail rate for CAMC traffic (ore & backhaul) can thereby be estimated from Table 6.5 as follows.

Table 6.6

AVERAGE EFFECTIVE RAIL RATE FOR CAMC TRAFFIC*

CAMC Concentrate Tonnage (tonnes/yr.)	Total CAMC Tonnage (tonnes/yr.)	Optimum Labour Concessions ($/tonne)	Existing Labour Contracts ($/tonne)
326,587	381,187	34.45	44.33
453,592	508,192	25.10	32.34
474,000 (Base Case)	528,600	24.70	31.80
566,900	621,500	23.23	29.75
680,389	734,989	21.31	27.20

* concentrate plus backhaul

As noted earlier, these expenses, costs and effective average rates are based upon a series of assumptions. The sensitivity, of the CAMC transportation bill for the movement of its freight (ore plus backhaul) on the WPY Rail Division, to possible ranges of rail labour contracts and CAMC ore volumes have been noted. Sensitivity to variations in other assumptions have not been shown. The following is our attempt to demonstrate the influence of other factors on the future WPY Rail Divisions expense in moving CAMC traffic; namely the influence of variations in revenue from:

a) passenger traffic; and

b) non-CAMC traffic.

Sensitivity to Passenger Traffic Revenue

The tour companies feel that, within reason, patronage of the WPY passenger service by tourists is not price sensitive. There is therefore potential for WPY to negotiate a better price for passenger train block bookings with the tour companies.

The passenger patronage for the foregoing analyses was estimated by WPY at 40,000 passengers/year. It is possible that this patronage could be increased, but not likely to previous high levels of about 75,000 passengers/year prevalent before the opening of the South Klondike Highway and the introduction of tour buses between Skagway and Whitehorse. Improved peripheral attractions such as on board costumed guides and native dancing and crafts at the Carcross Station, may serve to that end. Wider publicity may improve patronage as well.

We believe there is a greater potential to increase passenger revenues through fare increases than through attempts to increase patronage.

The average passenger fare assumed by WPY is $62.50. It seems to the Board that WPY could negotiate a reasonable increase in this figure with the tour companies, particularly if the aforementioned peripheral attractions were added. The tour companies should be able to easily absorb additional costs into the package tour price which often exceeds $1,500 - $2,000. Granted, such an increase may, in effect, decrease tour company profits if the tour package price is highly competitive. As well, if the tour company currently operates buses out of Skagway as a profit center, diversion to the WPY may reduce profit in this respect. Nevertheless, some increase in average fare might be possible.

We believe that with proper marketing and negotiation, the passenger patronage could be increased by up to 15,000 passengers/year and the average fare could be raised up to $80/passenger in the near future if full operation of the WPY Rail Division commences.

The resultant potential passenger revenue would thereby be as follows.

Table 6.7

PASSENGER REVENUE CHANGES
DUE TO PARTRONAGE/FARE INCREASES

(000$)

	Average Fare* ($/passengers)		
Patronage (passengers/ year)	62.50	70.00	80.00
40,000	2,500	2,800	3,200
45,000	2,813	3,150	3,600
50,000	3,125	3,500	4,000
55,000	3,438	3,850	4,400

* average of through fare and Fraser turn fare

In the Base Case, the incremental cost of handling passengers is less than the $2.5 million revenue. The break-even effective rates determined for CAMC traffic could thereby be considered to be cross-subsidized by the net passenger revenue. Inasmuch as WPY would have to take sound business action to attain the revenue gains shown in Table 6.7, we see no reason why the resultant net revenue should further cross-subsidize other traffic. It would fairly represent a profit, from sound business action.

If, however, WPY chose to cross-subsidize CAMC traffic to the extent that CAMC traffic only covers the expense residual of all other Rail Division revenue, then a rough estimate of the sensitivity of the average effective CAMC traffic rate to passenger fare would be as follows:

Table 6.8

SENSITIVITY OF CAMC AVERAGE*
EFFECTIVE RATE TO PASSENGER FARE

($/tonne)

CAMC Concentrate Tonnage (tonnes/yr.)	Total CAMC (tonnes/yr.)	CHANGE TO CAMC RATE Average Passenger Fare $70.00	$80.00
326,587	381,187	(0.79)**	(1.84)
453,592	508,192	(0.59)	(1.37)
474,000 (Base Case)	528,600	(0.57)	(1.32)
566,900	621,500	(0.48)	(1.13)
680,389	734,989	(0.41)	(0.95)

* it is not possible for the Board to assess the impact of increasing patronage above the 40,000 passenger level, it is probable that the impact would be major as incremental passenger costs to not appear to be very sensitive to patronage level.

** ( ) denotes a reduction in CAMC average effective rate.

Sensitivity to Non-CAMC Freight Revenue

The sensitivity of the average effective CAMC rail rate to variations in revenue arising from other freight moving on the WPY Rail Division could be significant. The foregoing calculations were based on the following assumptions in this respect.

Table 6.9

NON-CAMC TRAFFIC VOLUME, RATE, REVENUE ESTIMATES

Commodity	Volume (tonnes)	Rate ($/tonne)	Revenue ($000)
Non-CAMC North-Bound Freight*	2,553	56.32	144
South-Bound Freight	6,350	22.20	144
Cassiar Asbestos	25,401	6.47	168
United Keno Hill Mines Ore	4,536	26.15	120
Gasoline	6,800,000 gal.	10.4¢/gal.	708
			$ 1,284

* 57,153 tonnes total less 54,600 tonnes CAMC backhaul.

Of immediate concern to us is the rate applied to Cassiar Asbestos, of $6.47/tonne. The official tariff shows the joint rate for asbestos fibre and zinc ore from Whitehorse to North Vancouver to be $42.99/tonne exclusive of terminal charges. It is thereby perplexing as to why the rates have been allocated as follows.

Table 6.10

SELECTED WPY RAIL/MARINE RATES

($/tonne)

	Rail Division	Marine Division	Joint Rate
Cassiar Asbestos	6.47	36.52	42.99
U.K.H.M.	26.15	16.84	42.99

At first glance, it appears that the WPY is allocating Cassiar rates to support the marine movement and that the rail rate is non-compensatory (i.e. illegal). It would seem reasonable that the allocation of asbestos revenue should be greater for rail which, if charged at the U.K.H.M. rate, would increase the non-CAMC freight revenue by about $500,000. If this was done, the effect on the residual expense to be paid by CAMC would be a reduction of $500,000.

It is also possible that in the future more asbestos could be shipped via WPY, if WPY can successfully compete with the Cassiar to Stewart trucking operation.

In summary, there are many possibilities that could result in an increase or decrease in the non-CAMC freight revenue picture. Apart from the $500,000 effect of the Cassiar traffic, however, we feel that the losses or gains related to non-CAMC freight are within the pervue of WPY management and the profits or losses should be theirs to reap or pay.

WPY Truck Division

The WPY Truck Division is assumed to handle that part of the CAMC traffic movement from Faro to Whitehorse, return, for connection to the WPY Rail Division. In order to be consistent with other truck route option costing, the Faro-Whitehorse truck movement is costed out in a manner identical to all other truck options. As well, it should be remembered that the Faro to Whitehorse truck movement could be carried out by a trucking company other than WPY.

The truck operation design and costing criteria is outlined in detail in appendix 1. Herein, only the results are presented to complete the evaluation of the transportation bill to CAMC if it elected to utilize the traditional truck-rail system from Faro to Skagway.

The results of the truck cost analysis are shown below in accord with three CAMC concentrate tonnages and three contract life/depreciation scenarios assuming a back-haul from Whitehorse to Faro of 54,600 tonnes/year.

Table 6.11

FARO-WHITEHORSE TRUCK COSTS

($000/year)

CAMC Concentrate Tonnage (tonnes/yr.)	1 Year Contract	3 Year Contract	3 Year Contract (trailer & container depreciation over 8 years)
326,600	13,741	11,497	11,114
474,000	19,238	16,011	15,515
680,400	26,814	22,280	21,596

From Table 6.11, the average effective truck rate for CAMC traffic (concentrate and backhaul) can be estimated as follows:

Table 6.12

AVERAGE EFFECTIVE TRUCK RATE FOR CAMC TRAFFIC

($/tonne)

CAMC Concentrate Tonnage (tonnes/yr.)	Total CAMC (tonnes/yr.)	1 Year Contract	3 Year Contract	3 Year Contract (trailer depreciation over 8 years)
326,600	382,200	36.05	30.16	29.23
474,000	528,600	36.39	30.29	29.35
680,400	735,000	36.48	30.31	29.38

WPY Joint Rate

From Tables 6.6 and 6.12 the average effective joint rate on all CAMC traffic via the traditionnal truck-rail system to Skagway can be determined with sensitivity to concentrate volume, truck contract length and rail labour contracts.

Commencing with the base case expectation of CAMC to ship 474,000 tonnes/year of concentrate, the range of possible average effective rates are as follows.

Table 6.13

AVERAGE EFFECTIVE JOINT RATE ON WPY (BASE CASE)

($/tonne)

Truck Contract	Existing Rail Contract	Rail Labour Concessions
1 year	68.19	61.09
3 year	62.09	54.99
3 year (8 yr. trailer dep.)	61.15	54.05

It is most likely that a prudent trucking operator would opt to minimize his risk by depreciating all his investment over the contract life, and that CAMC would not opt for a 1 year contract due to high cost. Under this assumption and presuming

WPY would not cross-subsidize the Cassiar asbestos rail movement to better its marine operations to the detriment of CAMC, the average effective joint rate estimates, in relation to variations in CAMC concentrate tonnage, are as follows.

Table 6.14

ADJUSTED AVERAGE EFFECTIVE JOINT RATE ON WPY
(VOLUME SENSITIVITY)

($/tonne)

CAMC Concentrate Tonnage (tonnes/yr.)	Total CAMC Tonnage (tonnes/yr.)	Existing Rail Contract	Optimum Rail Labour Concessions
326,600	381,200	73.17	63.30
474,000	528,600	61.14	54.05
680,400	735,000	56.83	50.94

* Based on sum of Table 6.5 and Table 6.11 (3 year contract) less $500,000 divided by 528,600 tonnes.

Summary WPY Costs

If CAMC, in fact, produces and ships concentrate at the level it forecasted in its submission to us and requires back-haul goods to be shipped at the forecasted level of the CAMC submission, and if the traditional truck-rail WPY system was employed, CAMC transportation charges, excluding terminal charges, to be paid WPY in 1983 dollars would be as follows:

1. If WPY is unsuccessful in obtaining the concessions it hopes to obtain from the relevant rail unions:

   $32.3 million/year

2. If WPY is successful in obtaining the concessions it hopes to obtain from the relevant rail unions:

   $28.6 million/year

In order to provide a comparison of the total transportation charges for the various transport options, terminal charges must be added to the above transportation charges. In the last full year of operations, 1981, WPY charged CAMC $2.5 million for terminalling services at Skagway. We estimate the 1983 minimum charge to be $3 million based on 20 percent inflation since 1981.

Benefit Analysis

The WPY truck-rail route is the traditional means of servicing CAMC traffic. It has also provided service to other resource producers such as Cassiar Asbestos, and United Keno Hill Mines as well as to Yukon shippers and consignees of general freight. The WPY Rail Division is considered to have a significant heritage value to Yukon, Canada and Alaska due to its role in the Klondike Gold Rush, the development of Yukon and its equipment and access to various historical and scenic sites. Because of this, the WPY Rail Division is considered by many to be a "world class tourist attraction" and of national value.

The WPY Rail Division exhibits the characteristics of most other railways in that it functions best in serving high volume bulk traffic. Most railways thrive competitively when that high volume traffic is for long distances. The WPY Rail Division, being relatively short, loses in this respect. It loses competitive position, as well, due to the need to transfer goods of/from trucks to access Yukon shippers and consignees.

The WPY Rail Division is a regulated mainline rail carrier and as such does not have the business freedom afforded most trucking services. For instance, it cannot set rates which are less than the compensatory rate (that is the rate must cover the long run variable cost of operation). Although not necessarily prudent, truckers can charge less than their variable cost, on the short term, to attract traffic. Shippers unhappy with the rail rate or service provided can, however, seek remedial action through the CTC and the WPY railway must comply with regulatory decisions.

The WPY railway must provide and maintain its own roadbed and pay for that from freight revenues. Truckers, on the other hand, use highways and roads paid for and maintained by the Government in general. Some argue that license fees and fuel tax serve to defray such road costs, however, we believe this is debatable.

The main difficulty faced by the WPY Rail Division is that it is essentially a captive railway - captive to CAMC. Without CAMC traffic, it does not have the economic power to operate. Some believe it should operate even without the high volume bulk freight but that would be impractical, for the fair rate to cover costs would be astronomical.

In short, the WPY Rail Division is not a flexible transportation system through no fault of its own. It needs a "floor tonnage" to be able to charge a reasonable rate and provide a reasonable service. It needs assurances of long term traffic commitment to justify risking capital to make improvements so as to increase efficiency. A trucking operation has no obligation to cover road costs and to a large extent can reutilize equipment elsewhere.

The WPY Rail Division, nevertheless has the advantage over trucking, in theory on the long term, if mine development increases in the Yukon because the economies of scale on a railway far exceeed the economies of scale in a trucking operation as was demonstrated in the foregoing cost analysis (reiterated below).

Table 6.15

AVERAGE EFFECTIVE RATES

($/tonne)

CAMC Concentrate Tonnage (tonnes/yr)	Truck Faro-Utah	Rail* Utah-Skagway
326,600	30.16	34.45
474,000	30.29	24.70
680,400	30.31	21.31

* Optimum labour concession case, not adjusted for Cassiar rate.

Tax Revenue

The tax revenue generated by the WPY truck-rail route derives mainly from employee personal income tax, fuel tax, property tax, and corporate tax (mainly from trucking operation as the Rail Division is assumed to operate on a break-even basis).

Table 6.16

WPY TRUCK-RAIL OPTION[1]

ESTIMATED TAX REVENUES

	Item	Trucking Canada	Rail Canada	Total Canada
A.	Payroll ($000,000/yr.)			
	- existing rail contract	5.5	3.9*	9.4
	- rail labour concessions	5.5	3.2*	8.7
B.	Fuel ($000,000/yr.)	2.8	0.8	3.6
C.	Personal Income Tax ($000,000/yr.)**			
	- existing rail contract	1.1	0.8	1.9
	- rail labour concessions	1.1	0.6	1.7
D.	Fuel Tax ($000,000/yr.)***	0.8		0.8
E.	Corporate Tax ($000,000/yr.)****	0.5	0[2]	0.5
F.	Total Tax ($000,000/yr.)			3.0 - 3.2

* Simple estimate assuming wage parity which results in an over estimate of Canadian roll but not other detailed information available assuming all labour associated with CAMC traffic.

** based on 20% of gross income.

*** Based on 42¢/gallon.

**** Based on 40% of net income.

1 All calculationns based on 474,000 tonnes/year CACM concentrate and 54,600 tonnes/yr. back-haul.

2 assumes rail is operating on a break-even basis.

Employment

The WPY route would employ between 155 and 163 Canadians, depending upon the nature of rail labour concessions.

Non-Quantifiable Benefits/Factors

The economic risks associated with implementing the WPY truck-rail option are minimal to Government as it is assumed that no capital grant or subsidy would be required if CAMC paid the afore-defined "break-even rate". The economic risks to CAMC relate to the possibility of future labour contracts/disruptions resulting in higher costs hence higher rates. The economic risks to WPY relate mainly to loss of money involved in waiting for CAMC to come into production and not being able to attract other freight and passengers at forecasted levels and rates.

The physical risks are minimal.

The heritage of the WPY railway would be a positive public benefit as the equipment and infrastructure would remain operative and passenger options appear to be lucrative on an incremental cost basis.

To the extent that the WPY Railway does attract tourists to Yukon the tourist industry may benefit, but likely not in any significant way.

Net Cost/Benefit Analysis

The foregoing sections provided

a) the direct cost of the WPY-Truck Route moving CAMC traffic;

b) the tax revenue from the operation; and

c) the qualitative benefits/disbenefits of this option.

For simplicity of further comparisons of this with other options, the quantitative costs and benefits can be amalgamated to yield a range of costs of this option. The cost estimates for this option are as follows.

Table 6.17

COST OF WPY TRUCK - RAIL OPTION

($000,000/year)

	Optimistic	Pessimistic
a) Truck - Rail Charges	28.6	32.3
b) Terminal Charges	3.0	3.0
Charge to CAMC	31.6	35.3
Canadian Tax Revenue	(3.0)	(3.2)

6.3 The South Klondike Highway Route

General Considerations

The South Klondike Highway is that part of Highway 2 that runs from the Alaska Highway to the U.S. port of Skagway. It was first opened for through traffic in the summer of 1979, however, various segments of its total length had been open prior to that time.

To our knowledge, the funds for the completion of the highway as a through road were obtained from the Canadian Treasury Board under three basic justifications:

a) to facilitate local traffic;

b) to encourage tourism; and

c) to provide a competitive means of shipping general freight between Skagway and Whitehorse.

At the time when funding was being considered, there was a general opinion that a new route for moving inbound passenger and general freight would provide competition with the WPY Rail Division, which had held a virtual monopoly on through traffic up until 1979. It was hoped that the highway would thereby result in lower personal transportation costs and in lower consumer prices in Yukon. As well, it was argued that the highway would reduce the Yukon citizens' feeling of isolation. What was very clear, however, was that the opening of the through highway was not to provide an outbound route for heavy ore trucks.

The current policy of the Yukon Government is that the highway is essentially a facility for tourists and local residents during summer seasons. It has never been kept open during the winter months, and there are no plans to do so. Nevertheless, this policy could be changed by the Yukon Government. That would be a political decision.

CAMC would like to ship its concentrate and receive its backhaul via this highway pointing out it is the Governments' responsibility to provide adequate roads and highways. CAMC has two options in this respect. If the South Klondike is opened for year-round service to B-train ore trucks, CAMC could:
a) contract a for-hire trucker; or b) buy and operate a truck fleet itself. The latter holds a greater risk to CAMC than the former, however, the latter proprietary truck operation would cost less. CAMC hopes to contract ore and backhaul service on a short term basis to ensure continued competitive bidding and hence hold costs down. Although theoretically beneficial to contract on, for instance, a year by year basis, there are practical limitations to such an expectation: namely, no trucking firm would accept such a contract unless the rate was based on a one year write -off of equipment - the risks of such a venture would be just too great.

Description of Existing South Klondike Highway (Canadian Section)

At our request, Mr. J. Fullerton, Chief Highway Engineer for Public Works Canada (PWC) undertook to provide engineering commentary on the various road options and the suitability of those roads for CAMC B-train operations.
Mr. J.C. Hudson, Manager, Civil Engineering (Yukon) for PWC provided the following with respect to the South Klondike Highway:

1) Alaska Highway km 1476-km 1454.8 (Whitehorse Weigh Scales to Carcross Cut-off) This highway was rebuilt in 1969/70 and paved in 1970/71 with 75 mm hot mix asphalt pavement over 150 mm of 19 mm crush gravel base course and between 150 mm and 400 mm of 100 mm pit run subbase course. Pavement consists of two 3.66 m mats with 2.74 m oil stabilized shoulders. The pavement is presently in need of resurfacing which is scheduled for 1985. Design speed is 110 km/h with excellent geometry and grades less than 5%. This pavement will accommodate "B" Trains.

2) Carcross Road, General (Whitehorse - Carcross) DIAND are presently funding Yukon in the reconstruction of this highway. The ultimate design calls for BST surface on a 10 m road top with 8% maximum grades and 80 km/h design speed. Prior to this reconstruction, the road generally conformed to the original early 20th century route with minor realignments. Road width, where not yet constructed, is generally 8 m with grades of up to 10% and some very poor horizontal alignment.

3) Carcross Road km 159-146 (Carcross Cut-off, south) Yukon reconstructed this highway section in 1982. Subgrade consists of silty sands, silty clays and gravels. Base course consists of 150 mm of 19 mm crushed gravel with a BST application in 1983. This section of highway is considered weak if a "B" train haul is contemplated; it will need more base course added with widening.

4) Carcross Road km 146-132 This section was reconstructed in 1983 with a subgrade as described above but with 450 mm of pit-run subbase course (up to 600 mm in poor areas). In 1984, the addition of 150 mm of 19 mm crushed base course and BST is scheduled. Structurally, this section is considered strong enough for "B" Train haul. The life expectancy of the BST surface is of concern.

5) Carcross Road km 132-105.8 (up to Nares Bridge at Carcross) The northern portion of this section of road is scheduled for subgrade reconstruction in 1984 as described under km 146-132 above. Consideration is being given by DIAND to also reconstructing the southern portion in 1984/85 under a day-labour contract with native contractors. The silty nature of the subgrade soil has traditionally caused a soft road surface and rutting is common after sustained or heavy precipitation. Prior to reconstruction, this highway would not stand up to a "B" Train haul. After reconstruction, this section will be structurally comparable to km 146-132.

6) Carcross Road km 105.8-81 (Nares Bridge at Carcross-YT/BC Border) Most of this section was reconstructed out of a very old mine haul road which was upgraded in the late 1960's to service Venus Mine. Reconstruction took place in 1978/79 except for km 81-83 which was new construction (beyond Venus Mine) in 1971. Design speed is 80 km/h, width 8.5 m, with maximum grades of 8%. Subgrade material consists of blasted rock, gravels, silty sand and clay. There is no subbase course, but 100 mm of 19 mm crushed base course was added prior to BST application in 1979.

7) Carcross Road km 81-66 (YT/BC Border - Tutshi River) was constructed in 1974/76 to the standard described above under km 105.8-81. Subgrade consists of gravels, silts and clays, km 81-76, and blasted rock, km 76-66. Subbase consists of 50-100 mm of pit-run gravel prior to a base course of 100 mm of 19 mm crush and BST application in 1979.

8) Carcross Road km 66-24 (Tutshi River to BC/Alaska Border) This section was constructed in 1977/78 and again is to the standard described above, km 105.8-81. Subgrade is generally blasted rock. Base course consists of 50-100 mm of pit run gravel with a surface course of 100 mm of 19 mm crushed gravel. Yukon have scheduled a BST application for 1984.

9) Carcross Road (General) km 105.8-24 (Carcross-BC/YT Border) will need some structural reinforcement to its base course in weak areas in order to be able to sustain "B" Train traffic. Traffic mix of tourists and "B" Trains is incompatible with an 8.5 m road width and overall widening of final road top to 10 m must be considered. Presently the highway between Skagway and Carcross is not maintained late October to May and is consequently quickly closed by snow. (We note, as well that this section is not open to commercial vehicles over 9,000 kg (19,845 lbs) gross vehicle weight except in emergencies)

Description of Existing Bridges on South Klondike Highway (Canadian Section)

PWC provided the following with respect to bridges on the South Klondike Highway:

1) Nares Crossing Bridge was constructed in 1970 with a 2HS20, 1HS25 loading. Its length is 129.5 m consisting of 17-7.6 timber stringer spans, 150 mm laminated deck with 50 mm wear planking founded on pipe piles. Whereas the bridge is capable of taking "B" Train loading, due to the type of structure present, it would be subject to rapid deterioration and high maintenance could be anticipated.

2) Summit Creek Bridge was constructed in 1978 with a 2HS25 loading. Span is 21.3 m with a deck width of 10.3 m. The deck/beam structure is precast concrete beams on concrete abutments founded on solid rock. This short span will not create any problems for "B" Train loadings and is in good condition.

South Klondike Highway Costs (Canadian Section)

Impact of CAMC B-Train Operation

The Yukon Department of Highways is responsible for the South Klondike Highway to the U.S. border and to ensure that it is safe for the public to use. As was noted earlier, the South Klondike Highway was opened for public and tourist use and for in-bound general freight services. The highway is considered safe for such use and is being reconstructed and sufaced to enhance the quality of the road for public use.

Apart from the evaluation of PWC noted earlier, Mr. L. Blackman, Deputy Minister of the Yukon Department of Highways provided us with expert evidence in respect of the impact of using the South Klondike Highway for sustained B-train ore truck operations. This information was based on the technical experience of the Department and was not provided in the context of a Yukon Government policy statement as to road use. The essence of Mr. Blackman's information follows:

> 1) If the public was restricted from using the road, there is little that would physically prevent B-train or truck operations. However, as there is no experience as to how the road would stand-up to such operations, it is difficult to evaluate how much it would cost to maintain the road up to current standards once heavy ore truck operations commence. It is possible that the present and planned bituminous surface treatment may have to be ripped up and returned to a gravel surface or be replaced by pavement. In the former case, maintenance costs would "...take a quantum leap..." upward. In the latter case, sizeable capital expenditure would have to be made;
>
> 2) If the road is to be used by the public and continuous B-train ore trucks, such that the public would have safe access, a minimum of $18 to $20 million should be spent on widening the road surface, providing climbing lanes and scenic "pull-off areas". The existing road is a nominal 8 1/2 metres wide. For safe operations, with continuous CAMC B-train ore trucking, there should be 1.8 metre shoulders and an 11 metre finished road surface;
>
> 3) In order to embark on the program noted in 2), there should be a one-year engineering study, a screening process leading to approval by the Canadian Department of Indian and Northern Affairs, Treasury Board and the Federal Cabinet, plus the construction period itself. A three year program could be facilitated, but only on a "money no object" basis. A five year program would be more realistic and probable;
>
> 4) There would be substantial interference with public use of the road during the construction program;
>
> 5) Permission for continuous B-train ore trucks to use the road, without the aforementioned program is, however, one which could be made for political reasons.

With respect to incremental maintenance requirements, other than snow removal, as a result of B-train operations, PWC estimated that due to wear on the Alaska Highway (km 1476-1454.8) and on the South Klondike Highway (km 159-24) would be $95,000 and $439,000 respectively.

Mr. Blackman provided his best estimates of the cost impact of CAMC B-train ore truck operations on the South Klondike Highway (Canadian Portion) which are summarized below:

a) Minimum Cost	(1983$)
Construction program	$ 18 - 20 million
Winter maintenance equipment and facilities	$ 640,000
Winter snow removal	$ 500,000/year
Incremental year-round maintenance	$ 534,000/year*

* Source: PWC

b) Maximum Cost	
Initial construction program	$ 18 - 20 million
Tear-up and paving	$ 18 - 25 million
Winter maintenance equipment	$ 640,000
Winter snow removal	$ 500,000/year
Incremental year round maintenance	$ 534,000/year*

* Source: PWC

Description of Existing South Klondike Highway (Alaska Section)

The Alaska Department of Transportation and Public Facilities (DOTPF) in October 1983 released a position paper entitled "Klondike Highway Operation and Maintenance". Apart from this document, we met with Mr. W. Sparks, Transportation Planning Director of the South-East Region of Alaska to discuss the impact of CAMC B-Train Operations in Alaska. Our findings with respect to the Alaskan Section of the South Klondike Highway flow from these sources.

The Alaskan Section of the South Klondike Highway runs from Skagway to the U.S. border - a distance of 23.6 km and is a "Federal-Aid Primary Route". It was opened for seasonal operation in 1978 under a bilateral agrement between the U.S. and Canadian Governments. It is closed between October 15 and May 1.

There are eleven turnouts and two scenic sites and has two truck emergency escape ramps. It also has a maximum grade of 8% for a length of 5 km near the U.S. border.

Description of Existing Bridges on South Klondike Highway (Alaskan Section)

There are three bridges located along the South Klondike Highway (Alaskan Section): the State ferry terminal transfer bridge; the Skagway River Bridge; and the Captain William Moore Creek Bridge.

The Skagway River Bridge has a reinforced concrete deck. The Captain William Moore Creek Bridge has a timber deck that is capable of being converted to a concrete reinforced surface. Both bridges are designed to accommodate legal weights with uniform stress on all the bridge members.

Impact of B-Train Operation (in Alaska)

Mr. W. Sparks, Transportation Planning Director of the South-East Region of Alaska provided the Board with the impact of CAMC B-Train Operations in Alaska.

In general, the Department of Transportation and Public Facilities recommended to the State Government that the South Klondike Highway in Alaska should remain closed in the winter and that current gross vehicle weight restrictions, according to the Federal Highway Administration standards, itemized in Table 6.18, should be maintained.

If CAMC wanted to truck on the Alaska portion of the South Klondike Highway, from a policy point of view, Mr. Sparks felt that the State of Alaska should have no major objection, if:

a) CAMC either maintained the highway or reimbursed the Alaska Government for same;

b) CAMC compensated the Alaska Government for the loss in life of the Captain William Moore Creek Bridge;

c) B-trains split the load at the border and ran a shuttle service to Skagway under existing load limits; and if

d) the CAMC trucking operations proved to present a low hazard to tourist on the Alaska side of the road.

In summary, if the Alaska Government decided to permit CAMC to use the South Klondike Highway in Alaska for B-train ore service, the impact would be as follows:

	($1983)
Increased maintenance equipment and facilities	$ 500,000
Increased maintenance	$ 375,000/yr

Source: Alaskan Position Paper 1983.

Economic Impact of CAMC Use of South Klondike Highway

It is clear that any cost above and beyond existing or planned costs related to the South Klondike Highway, would be incurred due to the presence of CAMC B-train ore trucks. If paid for by the Federal Government and/or the State of Alaska, the amount paid is clearly a subsidy to the CAMC concentrate and backhaul movement, inasmuch as that amount would not otherwise be spent, at least for a long time. The economic value of this subsidy should be considered as a transportation cost of CAMC traffic and hence a direct subsidy to CAMC - keeping in mind that CAMC has at least two other transportation routes available to it at the present time.

Table 6.18

ALASKA STATE REGULATIONS
VEHICLE LOAD CHART FOR COMPUTING
GROSS VEHICLE WEIGHT ONLY

May 27, 1983

Feet	7 Axles	8 Axles	9 Axles	10 Axles	11 Axles	12 Axles
50	89,000	94,500				
51	89,500	95,000				
52	90,500	95,500				
53	91,000	96,500				
54	91,500	97,000				
55	92,000	97,500				
56	92,500	98,000				
57	93,000	98,500				
58	94,000	99,000				
59	94,500	99,500				
60	95,000	100,000				
61	95,500	101,000				
62	96,000	101,500				
63	96,500	102,000				
64	97,500	102,500				
65	98,000	103,000				
66	98,500	103,500	109,000	114,500	120,000	126,000
67	99,000	104,000	109,500	115,000	120,500	126,500
68	99,500	104,500	110,000	115,500	121,000	127,000
69	100,000	105,000	110,500	116,000	121,500	127,500
70	-	106,000	111,000	116,500	122,500	128,000
71	-	106,500	111,500	117,000	123,000	128,500
72	-	107,000	112,000	118,000	123,500	129,000
73	-	107,500	113,000	118,500	124,000	129,500
74	-	108,000	113,500	119,000	124,500	130,000
75	-	108,500	114,000	119,500	125,000	130,500
76	-	109,000	114,500	120,000	125,500	131,000
77	-	110,000	115,000	120,500	126,000	132,000
78	-	110,500	115,500	121,000	126,500	132,500
79	-	111,000	116,000	121,500	127,000	133,000
80	-	111,500	117,000	122,000	128,000	133,500
81	-	112,000	117,500	123,000	128,500	134,000
82	-	112,500	118,000	123,500	129,000	134,500
83	-	113,000	118,500	124,000	129,500	135,000
84	-	114,000	119,000	124,500	130,000	135,500
85	-	114,500	119,500	125,000	130,500	136,000
86	-	115,000	120,000	125,500	131,000	136,500
87	-	115,500	120,500	126,000	131,500	137,000
88	-	116,000	121,500	126,500	132,000	138,000
89	-	116,500	122,000	127,000	132,500	138,500
90	-	117,000	122,500	128,000	133,500	139,000
91	-	118,000	123,000	128,500	134,000	139,500
92	-	118,500	123,500	129,000	134,500	140,000
93	-	119,000	124,000	129,500	135,000	140,500
94	-	119,500	124,500	130,000	135,500	141,000
95	-	120,000	125,000	130,500	136,000	141,500
96	-	120,500	126,000	131,000	136,500	142,000
97	-	121,000	126,500	131,500	137,000	142,500
98	-	122,000	127,000	132,500	138,000	143,500
99	-	122,500	127,500	133,000	138,500	144,000
100	-	123,000	128,000	133,500	139,000	144,500
101	-	124,000	129,000	134,000	139,500	145,000
102	-	124,500	129,500	134,500	140,000	145,500
103	-	125,000	130,000	135,000	140,500	146,000

As CAMC cannot likely guarantee long term production assurances, there is a sizeable risk in making such a major capital investment in the South Klondike Highway. The economic value is dependent on the time over which the investment would be utilized and as such risk can be transformed into annualized value on the basis of the time over which CAMC may continue to operate. For this purpose herein we have elected to adopt a 10 year production life to evaluate the annualized value of the required capital expenditure based on long term Canadian bond issue rates.

Table 6.19

ANNUALIZED CAPITAL VALUE OF SOUTH KLONDIKE HIGHWAY

Road section	Minimum Capital (000,000 $)	Value*** (000 $/yr)	Maximum Capital (000,000 $)	Value*** (000 $/yr)
Canada*	19.5	3,255	41.0	6,844
Alaska	0.5	83	0.5	83
Total	20.0	3,338	41.5	6,927
Value/tonne**		$6.31		$13.10
Minimum Value/ tonne (1)		$4.35		$ 9.03

* Average of estimate

** Based on 474,000 tonnes/yr concentrates plus 54,600 tonnes/yr backhaul traffic.

*** Based on 10 year life at 11.5 %/yr bond rate assuming monthly repayments of capital plus semi-annual compounded interest.

(1) Based only on 11.5%/yr interest on capital.

This analysis shows that the effective annual cost of upgrading the road could range from $6.31/tonne to $13.10/tonne with interest-value ranging from $4.35/ton[illegible] to $9.03/tonne, as seen in Table 6.19. We do not believe it [illegible]ealistic to simply say it is the Government's responsibility [illegible]vide such a subsidy and accept such a risk when other o[illegible]ns may exist without that level of subsidy or risk just b[illegible]se CAMC pays taxes and royalties.

During CAMC's operating life it has paid roughly $36 million in taxes and royalties, according to CAMC, for an average of $3 million per year. The minimum economic value of the road reconstruction program is about $3.3 million per year plus the additional maintenance costs which are in excess of $1.4 million per year for a total of $4.7 million per year at minimum.

Furthermore, CAMC cannot, at the time of this writing, assure anyone if or when it will commence production. Considering that, if the Yukon Government decides that it would permit CAMC trucking on the South Klondike Highway only if reconstruction for public safety was complete and if DIAND, Federal Cabinet and Treasury Board agreed to provide the funds, CAMC could not use the road for at least three years after those decisions and probably for five years after those decisions. CAMC contends, however, that:

a) "The Skagway - Faro route has no physical restrictive bridges or roadways limiting the G.V.W. lower than 134,500 lbs."

b) "Approval for hauling ore loads to Skagway appears to be a political question rather than one of technical or financial concerns.

c) "...should the Canadian section open to ore loads, Alaska would follow suit."

d) "Provided that Yukon truck drivers are responsible and heed posted speed signs, trucking along the Skagway road will not hinder tourist traffic."

e) "For the short term... the road does not need upgrading to ensure safety... In the longer term, the road should be upgraded as usage increases and the needs of Yukon change."

Summary Economic Impact of CAMC Use of Highway

Irrespective of whether CAMC trucking commenced before or after an upgrade program for public safety the range of possible effective economic values per tonne of CAMC traffic for road use would be as follows:

1) If the minimum upgrading of the road proves to withstand the continuous truck traffic over a 10 year period and trucking can be commenced during reconstruction, the minimum possible economic value of the use of this highway is as follows:

($ million/year)

	Canada	U.S.	Total
Capital Value	3.2	0.1	3.3
Additional Maintenance	1.0	0.4	1.4
Total	4.2	0.5	4.7

2) If the miminum upgrading of the road does not prove to withstand the continuous truck traffic over a 10 year period and the road must be paved and that paved road proves to withstand the continuous truck traffic over a 10 year period the possible economic value of the use of this highway is as follows:

($ million/year)

	Canada	U.S.	Total
Capital Value	6.8	0.1	6.9
Additional Maintenance	1.0	0.4	1.4
Total	7.8	0.5	8.3

These figures are very gross estimates and could contain sizable error but we feel that they represent a reasonable and fair assessment of the range of effective subsidy to the CAMC traffic that would be incurred if this option was implemented.

TRUCKING COSTS

Operations

As was mentioned earlier, a thorough examination of truck operations and associated costs over the various routes is presented in Appendix 1. However, a brief description of the operation over this route would help to understand the basis of our truck costing.

Forty-three standard 7 axle-70 foot B-trains with payload capacities of 42.5 tonnes would haul the ore from Faro to Fraser, a round trip distance of 660 miles, in just under 24 hours. The average winter/summer speed would be 28 mph, allowing for loading and unloading of both ore and backhaul traffic, vehicle checks, and driver meals and breaks. At Fraser, the B-train would be split so that individual trailers would be hauled by a pool of 10 tractors into Skagway. The splitting of loads at Fraser would reduce the g.v.w. to approximately 78,000 lbs. within the existing Alaskan state regulation. In order to handle

CAMC backhaul traffic, seven of the 43 B-trains would be required two-thirds of the time.

The Yukon/B.C. portion of the Faro-Skagway truck route would employ 100 drivers while the shuttle operation in Alaska would operate with 29 drivers. Canadian drivers would be stationed in Whitehorse with a round trip haul requiring two drivers. Whitehorse would also contain a truck terminal for administration and equipment maintenance and repairs. The Alaskan shuttle operation of 46 round trip miles would require three hours per trip with two hours for actual driver time and one hour for the Fraser transfer and truck handling at Skagway. Capital costs for the entire operation would be approximately $7.7 million for tractor, trailer and container acquisition.

Cost Analysis

In determining the annual trucking costs over the South Klondike Highway route, we based our calculations on the unit costs of the various expense items provided by Trimac Transportation Ltd. in their report to CAMC. Our analysis includes a determination of the direct operating costs, plus cost of capital, reasonable profit level and return on equity that would be acceptable to a contract carrier a more realistic approach than that submitted by CAMC..

The trucking costs for our base case scenario of 474,000 tonnes of concentrate haul and 54,600 tonnes of backhaul are presented in Table 6.20 for the South Klondike Highway route.

Table 6.20

TRUCKING COSTS FOR THE FARO-SKAGWAY ROUTE

(1983 $)

	$000
Driver Costs	7,182
Tractor Costs	7,254
Trailer Costs	2,146
Container Costs	273
Terminal Costs*	1,447
Depreciation Costs**	2,207
TOTAL	$20,509
Overhead Costs	6,202
GRAND TOTAL	$26,711
Rate	$ 50.53/tonne

* salaries and occupancy costs at Whitehorse and Fraser Terminals

** Capital costs are depreciated in the following manner:
  i) tractors - over 3 years, 20% salvage value
  ii) trailers and containers - over 3 years, no salvage value

Since a prudent truck operator would expect all costs to be covered and to make a reasonable profit, the overhead costs include interest expense, administration and insurance costs and profit and return on equity.

The effect on total trucking costs due to changes in volume and contract life is depicted in Table 6.21.

Table 6.21

SENSITIVITY OF TRUCKING COSTS WITH VOLUME AND CONTRACT LIFE CHANGES

South Klondike Route

(1983 $)

		326,600 tonnes	
Contract:	3 yr.*	3 yr.	1 yr.
Cost (000's)	$18,673	$19,199	$23,051
Rate/Tonne	$ 48.98	$ 50.36	$ 60.47
		474,000 tonnes	
Contract:	3 yr.*	3 yr.	1 yr.
Cost (000's)	$25,978	$26,711	$32,163
Rate/Tonne	$ 49.14	$ 50.53	$ 60.85
		680,400 tonnes	
Contract	3 yr.*	3 yr.	1 yr.
Cost (000's)	$36,846	$37,880	$46,409
Rate/Tonne	$ 50.30	$ 51.54	$ 63.14

* depreciation on trailers and containers is calculated over 8 years.

The difference in costs for each contract life under each tonnage scenario is due to the difference in depreciation of capital assets. Normally, tractor equipment is depreciated over 3 years with trailers and containers over 8 years. Since a prudent truck operator would require full cost recovery when contracting his services, shorter contracts mean higher depreciation costs, resulting in higher total costs.

Unlike the railway, there are no economies to scale with increasing volumes under the trucking operation. Under each volume scenario, the required trucking fleet operates at 100 percent capacity. Therefore, additional volumes require a proportional increase in equipment requirements. In addition, all cost components are mileage related, so that increasing volumes mean increasing trips and therefore proportionally increasing costs.

Benefit Analysis

CAMC prefers to use the South Klondike highway route as, it believes the cost of transportation on this Highway would be less than other options if the road costs are not borne by CAMC but by from the public purse. There are, however, some major disbenefits arising from the use of the South Klondike Highway by CAMC B-train ore trucks. Of importance, is the interference of public use of this road by the large heavy trucks that would operate on a frequency of about one truck every 20 minutes. The quality of the road as a scenic tourist access of Yukon would be diminished. The public hazard in using the road would be increased. Use of the road by local residents would become less desirable and more hazardous. In order to minimize these risks, substantial up-grading of the road would be required by using public funds and if the road does not stand-up to the truck use, increased use of public funds would be required in terms of maintenance and/or reconstruction and paving - all of which would not be required but for CAMC traffic. Furthermore, there is a risk that such investment may not even be utilized fully in the future as there are no guarantees that CAMC would continue to produce over the long term. (Note: we assumed 10 years continued traffic in determining the economic value of public investment in the road to permit CAMC truck operation.)

From another point of view, the people of Skagway - particularly those who were employed by the WPY Rail Division are adamantly opposed to such truck movement for it would mean a potential loss of all railway jobs in Skagway. A prominent labour leader in Skagway said "we will do all that is necessary to stop the trucks". So are the Carcross Indian Band who claim they have assurances by the Federal Government that the road would not be so-used. The Alaska State Government appears to disfavour CAMC truck hauling on their portion of the highway.

There are no guarantees that the Yukon or the Federal Government would permit CAMC trucking on the South Klondike until a five year reconstruction program was completed in order to ensure public safety.

As well, the granting of permission to CAMC to use the South Klondike Highway on a year round basis would necessitate the Federal Government to forgive WPY a $5 million interest-free loan under another agreement.

On the other hand, this option would generate a substantial number of new Canadian jobs not only in the truck haul and the manufacture of equipment needed but also in the five year road reconstruction activity. The economic stimulus of the latter project would be significant but of questionnable need, considering other options available to CAMC that would not require the sizable expenditure of public funds in a high risk venture also considering other uses to which such funds could be used elsewhere in Yukon and Canada.

Table 6.22

SOUTH KLONDIKE HIGHWAY OPTION
ESTIMATED TAX REVENUES IN CANADA

Payroll ($000,000/yr.)	7.3
Fuel ($000,000/yr.)	3.8
Personal Income Tax* (000,000/yr.)	1.5
Fuel Tax ($000,000/yr.)**	0.8
Corporate Tax ($000,000/yr.)***	0.9
Total Tax ($000,000/yr.)	3.2

* 20% of gross income.
** 9% federal + 5.2¢/litre Yukon = 42¢/gallon.
*** 40% of net truck revenue.

Non-Quantifiable Benefits/Factors

The economic risks, associated with implementing the South Klondike Highway Route, are very great. The range of capital cost to reconstruct the road is huge and there is no guarantee when or how long CAMC will produce. As well, the use of this road would signal the complete demise of the WPY Railway which on the long term could result in more expensive transportation costs not only for CAMC but also for other new mining developments. This is because of the lower economies of scale in trucking and because of the risk of uncontrolled escallation of truck rates once the railway ceases to exist. Damages to be paid for deteriorating Alaskan roads and structures coupled with the liability of increased hazards to public add to the economic risk of this option.

For obvious reasons, the physical risk relates to public safety, a hazard which we cannot estimate other than to agree with the many people who expressed serious concern.

Another risk which exists relates to the cost of the ore terminal in Skagway. This is now controlled by WPY and if its trucking operation was implemented WPY could virtually charge any price for the use of that terminal unless CAMC picked their option to buy it which expires this December. Even then, the land under the terminal is leased by WPY from the city of Skagway and a price could be levied for its use - particularly as modifications would have to be made to accommodate truck unloading.

Net Cost-Benefit Analysis

The foregoing sections provided:

a) the economic value of road use;

b) the direct cost of trucking;

c) the tax revenue from the operation; and

d) the qualitative benefits/disbenefits of this option.

For simplicity of further comparison of this with other options the quantitative costs and benefits can be amalgamated to yield a ranged net costs of this option. The net cost estimates for this option are as follows:

Table 6.23

COST OF SOUTH KLONDIKE HIGHWAY OPTION

(000,000$/yr)

	Optimistic	Pessimistic
a) Economic Value of Road (Canada)	4.2	7.8
b) Cost Recovery (U.S.)	0.5	0.5
c) Truck Costs	26.7	26.7
d) Terminal Costs	3.0	9.9*
Cost	34.4	44.9
Canadian Tax Revenue	(3.2)	(3.2)

* Assumes CAMC does not pick-up option to purchase the Skagway ore shed from WPY and WPY adopts a monopolistic pricing policy to yield a total truck and terminal cost marginally less than to Haines (as will be seen later).

6.4 The Haines Highway Route

Description of Haines Highway Route (Canadian Section)

Trucking over the Faro to Haines route covers a one way distance of 740 km, 670 km in Canada. If this route was able to handle B-train traffic and CAMC elected to use the route, CAMC would have to build a new ore shed and terminalling facilities in Haines.

This route is comprised of several unique road segments. Each of these are described by Mr. J.C. Hudson of PWC as follows.

Description of Existing Route Whitehorse to Haines

Alaska Highway km 1476-1493 (Whitehorse Weigh Scales-Echo Valley) was reconstructed in 1969 and paved in 1970/71. Maximum grade is 5.2% for approximately one-half kilometre.

Alaska Highway km 1493-1508 (Echo Valley-Old Dawson Road View Point) was constructed in 1977 and paved in 1979. The hot mix pavement is 80 mm thick over the two driving lanes, total 7.3 m wide, with shoulders 40 mm thick and 2.5 m wide. The pavement covers 150 mm of 19 mm crush base course and 150-400 mm of 50 mm crush over a subgrade of lacustrian silts, minor gravel tills and very minor rock from right of way cuts. Several areas are settling badly due to permafrost and are receiving periodic added surface material and sealed with BST patches. The section is considered adequate for "B" Train hauling, but pavement life is expected to be reduced as a result of the haul.

Alaska Highway km 1508-1522 (Old Dawson Road View Point to Takhini River) is presently being reconstructed with completion 84-06-30. BST application will be made later in summer of 1984. The highway segment is being reconstructed with 160 mm of 19 mm crushed base course and 320 mm of 50 mm crushed subbase. The reconstruction is almost entirely out of gravel borrow due to the poor availability of good excavation material in the right of way, together with ample evidence of relic permafrost. When reconstruction is complete, the highway will be able to carry "B" Trains. The life of the BST pavement is of concern, however.

Alaska Highway km 1522-1635 General (Takhini River to Haines Junction) This section of highway has received very little reconstruction except in isolated areas such as stream crossing approaches (Aishinik River and Marshall Creek) and to ease very poor original construction alignment. None of these reconstructions have improved the road width or strength substantially. The area is generally underlaid by silty soils and discontinuous permafrost. During 1980 and 1982, a BST surface was added to a road top of about 8.5 m. There are numerous weak sections that need maintenance on a regular basis. This is partly the result of the highway having next to nothing for a base course except the binder rich surfacing course that was added prior to the BST era and the subgrade materials ranging from good to fairly poor. Numerous grades exceed 6% and range up to the order of 10% on two occasions. Several sections have very poor horizontal alignment.

This section of highway could not support the "B" Train haul in its present state. Subject to PWC receiving Cabinet approval for its 5-year program, 1984-89, this section of highway is scheduled for reconstruction to a BST standard by 1989. This reconstructed highway would be able to support a "B" Train haul subject to the BST limitations.

Haines Road km 255-206 (Haines Junction to Dezadeash Lake) This highway section was rebuilt to Shakwak Project standards during 1979/80 with two 3.5 m driving lanes and 2 m shoulders, all with BST applied in 1980/81. Design speed is 80 km/h with maximum grades up to 6% leaving Haines Junction, but generally less than 3%. The BST is applied on 160 mm of 19 mm crushed base and between 160-300 mm of 50 mm crushed subbase. The highway would be able to sustain a "B" Train haul subject to the BST limitations.

Haines Road km 206-88.5 General (Dezadeash Lake to Three Guardsman) is generally on its original alignment with only minor upgradings in extremely bad areas. The highway is generally below 80 km/h design speed and of the order of 8 m wide. Poor grades and alignments are common. Relocation and redesign has been carried out under the Shakwak Project but plans remain on the shelf for lack of funds. The State of Alaska has taken over interest in the Project and guesses as to cash flow are made in the specific sections below. In its present state the highway could not sustain a "B" Train haul and more important, it would create a disasterous unsafe vehicle mix combining the truck density with the tourist traffic coming from and going to the ferry terminal at Haines. The ferry tourist traffic is supplemented by the Kluane Park Tourist traffic, this highway abutting the Park Boundary.

Haines Road km 206-182 (Dezadeash Lake to Vand Creek) presently has a Calcium Chloride surface. Yukon has scheduled a BST application in 1984. Only capital work performed to date on this section involves easing some of the tighter curves, improving sight distances through clearing and improving backslopes. If Shakwak funding continues, it is scheduled for reconstruction to BST standard 1988/89 and is third on the priority list.

Haines Road km 182-150 (Vand Creek to Blanchard River and YT/BC Border) follows rugged terrain and is especially thwart with very poor vertical and horizontal alignment. It contains few areas with passing sight distance. Assuming Shakwak funding, the clearing and ditching are scheduled for 1988 (priority - third, simultaneous with previous section) with grading to BST standard 1990/91 (priority - fourth).

Haines Road km 150-123 (Blanchard River to Mule Creek) follows the Tatshenshini River valley with generally better alignment although some short grades of up to 10% and some poor curves are present. Assuming continued Shakwak funding, this section is scheduled for 1986/87, having the second priority. The reason for the higher rating than the two previous sections is due to it being above the tree line and approaching coastal snowfall conditions. The existing grade experiences snow drifting which proves a constant high maintenance expense with frequent winter highway closures when ploughs and snowblowers cannot keep ahead.

Haines Road km 123-96 (Mule Creek to Three Guardsman) Like the previous section, this section experiences bad winter drifting with all the inherent maintenance problems and costs. It is reconstruction priority number one for which funding from the State of Alaska has just been received. Construction will commence 1984 with completion in 1985. The end product is a 80 km/h design, 7% maximum grade with a hot mixed asphalt pavement 80 mm thick over the two 3.5 m lanes and 40 mm thick on the 2.5 m shoulders. It is designed with sufficient base course and could sustain the "B" Train loading after reconstruction, with the associated shorter pavement life than would have otherwise been expected.

Haines Road km 70-88.5 (Three Guardsman to BC/Alaska Border) was reconstructed to the Shakwak standard for hot mix pavement in 1980-82, as described previously. In spite of the climb from coastal river valley to alpine tundra, the grades have been kept to a 3-5% average with short stretches of 7%. This section will presently accommodate the "B" Train haul with the proportionate shortening of overall pavement life.

We understand that from Haines Jct. to the U.S. border present Yukon load restrictions limit 7 axle B-train configurations to 110,000 lb. g.v.w.

The Haines Highway Route Costs (Canadian Section)

The engineering evaluation of this route showed that a number of sections are not now adequate to accommodate 134,500 g.v.w., 7 axle, 70 foot CAMC B-train trucks. Reconstruction would be required before such trucking could take place or could take place safely in conjunction with public use of the highway. Unlike the South Klondike Highway route, however, reconstruction plans are now contemplated for the Haines Highway Route for reasons other than CAMC B-train trucking. These plans involve a scheduled reconstruction program for completion well beyond 1985, first year we assumed CAMC trucking would theoretically occur. The economic value of reconstruction necessary to permit B-train operation on the Haines Highway Route would therefore be based on the cost of advancing contemplated reconstruction to 1985 completion. Although advancing such programs may not be physically possible, completion of same by 1985 on the Haines Highway Route appears to us to be more probable than completion of reconstruction on the South Klondike Highway by 1985. Therefore, for comparative purposes this assumption is conservative.

Apart from the economic value of reconstruction of the Haines Highway Route, B-train ore truck traffic will result in additional incremental maintenance costs. Unlike the South Klondike Highway Route, the Haines Highway Route is now open year-round and therefore no snow removal costs will be assessed the CAMC B-train operation.

A. Presently Contemplated Reconstruction Program

The following was provided by Mr. J.C. Hudson of PWC.

"In order to place the route in a condition sufficient to permit safe "B" Train operation year-round, it is considered necessary to complete the reconstruction already contemplated, i.e. Whitehorse to Haines Junction under the Alaska Highway Transportation Capital Program and Haines Junction to the BC/Alaska Border under the Shakwak Project.

WHITEHORSE AND HAINES JUNCTION CAPITAL COST

YEAR PRESENTLY SCHEDULED	LOCATION ON ALASKA HIGHWAY	OPERATION	COST ($ X MILLION)
1984	1508-1522	Construction	1.040
	1588-1603	Construction	5.000
1985	1476-1493	Asphalt Overlay	2.000
	1522-1540	Construction (includes Stoney Creek multi-plate culvert installation	4.750
1986	1540-1558	Construction	5.000
1987	1558-1574	Construction	3.800
	1604-1619	Construction	3.000
1988	1574-1588	Construction	3.800
	1619-1635	Construction	3.000
BST km 1508-1635; year after construction listed above 127 km x $15,000 (assume crushing performed with contracts) listed above.			1.905
			33.295"

HAINES JUNCTION TO BC/ALASKA BORDER CAPITAL COST

"With the exception of the reconstruction shown below 1984/85, there is no guarantee that the State of Alaska is going to be able to continue funding this project. Consequently the construction shown below is indicated on the assumption that new funds are going to be forthcoming at two year intervals.

YEAR PROJECTED FOR CONSTRUCTION	LOCATION ON HAINES ROAD	OPERATION	COST ($ X MILLION)
1984 & 85	88.5(=96)-123	Subgrade to BST	11.700
1986 & 87	123-150	Subgrade to BST	10.300
	131	Goat Creek Bridge	0.600
1988 & 89	150-182	Clearing & Ditching	0.500
	182-206	Subgrade to BST	9.000
1990 & 91	150-182	Subgrade to BST	9.600
			41.700

Total estimated capital expenditure to place the route from Whitehorse to Haines in a condition sufficient to permit safe "B" Train ore truck operation year-round is $75 million".

B. Annualized Economic Value of Recommendation Program Acceleration (Canadian Section)

As noted earlier, it is not fair to assign the capital cost of $75 million to CAMC, if it elected to utilize this route. It is reasonable to evaluate the cost of accelerating these programs to permit CAMC trucking in 1985 for comparative purposes.

Our evaluation of the economic value of accelerating these programs follows.

Table 6.24

ECONOMIC VALUE OF ACCELERATING CONTEMPLATED HAINES HIGHWAY ROUTE RECONSTRUCTION

($1983)

A. Alaskan Highway	Scheduled Year	Advance in Years	Capital ($000,000)	Economic* Value ($000/yr)
1508-1522 km	1984	0	1.04	0
1588-1603 km	1984	0	5.00	0
1476-1493 km	1985	1	2.00	38.4
1522-1540 km	1985	1	4.75	91.2
1540-1558 km	1986	2	5.00	192.0
1558-1574 km	1987	3	3.80	218.8
1604-1619 km	1987	3	3.00	172.8
1574-1588 km	1988	4	3.80	291.8
1619-1635 km**	1988	4	3.00	230.3
1508-1635 km**	N/A	2**	1.91	73.3
Sub-Total			33.30	1,308.6
B. Haines Road-Alaskan Highway to U.S. Border				
88.5-123 km	1984/85	1/2	11.70	112.3
123-150 km	1986/87	1 1/2	10.30	296.6
131 km	1986/87	1 1/2	0.60	17.3
150-206 km	1988/89	3 1/2	9.50	638.3
150-182 km	1990/91	5 1/2	9.60	1,013.5
Sub-Total			41.70	2,078.0
Grand Total			75.00	3,386.6

* based on bond rate of 11.5% for advance period applied to the scheduled cost, capitalized to an amount applicable only due to CAMC usage of route amortized over 10 years at that same bond rate.

** cost of BST surfacing assumed to be advanced an average of 2 years.

C. Incremental Maintenance Costs of Haines Highway Route (Canadian Section)

The estimate of incremental maintenance cost on the Haines Highway Route (Canadian Section) is based on the assumption that the reconstruction indicated previously has taken place, namely, upgraded to BST or pavement surfaces with adequate base courses. The following was provided to us by Mr. J.C. Hudson of PWC.

LOCATION	LENGTH	SURFACE TYPE	INCREMENTAL UNIT COST/KM 1 YEAR, $	TOTAL INCREMENTAL COST 1 YEAR ($ X MILLION)
Alaska Highway km 1476-1493	17	Pavement	4,500	0.077
Alaska Highway km 1493-1635	142	BST	3,250	0.462
Haines Road km 255-123	132	BST	3,250	0.429
Haines Road km 123-70	53	Pavement	4,500	0.239
				1.206

Therefore, if CAMC trucked on the Haines Highway Route, maintenance costs would increase by roughly $1.2 million per year as a sole result of that B-train operation.

Description of Haines Highway Route (Alaskan Section)

The Haines Road runs in the State of Alaska, for a distance of approximately 70 km. Similar to the Faro-Skagway route, truck operations over the Faro-Haines route would be required in Alaska to comply with the present state schedule of weight restrictions (see table 6.18). These regulations restrict operations of 7 axle B-trains to just under 100,000 lbs. g.v.w.

Mr. J.C. Hudson of PWC provided an engineering evaluation of the road segment as follows:

> Haines Road km 70-0 (BC/Alaska Border to Haines) The present highway has 75 mm of hot mix asphalt pavement plus 0.6 m shoulders, some shoulders paved. Design speed is 80 km/h with no serious grades and some deficient curves which are well signed. It is not anticipated that any capital cost would result from a "B" Train haul, except for shortened pavement life. Presently the "B" Train configuration (i.e., 134,500 lb.) is not legal in Alaska. U.S. and Canadian Customs hours would have to be modified from their present 16 hours open per day to accommodate B-train operation. The U.S. Federal Highways Administration advises that

the present traffic volume is 350 vehicles per day with 10% trucks.

Incremental Maintenance Costs of Haines Highway Route (Alaskan Section)

Mr. J.C. Hudson of PWC estimated that the incremental maintenance cost of the Haines Highway Route (Alaskan Section) would be in the order of $420,000 per year.

Economic Development of CAMC Use of Highway

Based on the foregoing, the economic impact of CAMC use of the Haines Highway Route is shown below:

($000,000/year)

	Canada	U.S.	Total
Capital Value	3.4	0	3.4
Additional Maintenance	1.2	0.4	1.6
Total	4.6	0.4	5.0

Trucking Costs

The Faro-Haines route would contain a shuttle transfer at Porcupine on the U.S./Canada border. On the Yukon portion of the route, 51 B-trains would be required to haul the concentrate tonnage on a continuous year round basis to Porcupine, a distance of 848 miles round trip. Average seasonal speed would be 30.5 m.p.h., as the round trip would take 27 3/4 hours to complete. At Porcupine, a pool of 12 tractors would be required to shuttle the split B-trains into Haines.

In order to handle the backhaul to CAMC, 7 of the 51 B-trains would be required 88 percent of the time to move the resupply traffic.

The Canadian portion of this route would employ 118 drivers with the shuttle on the U.S. side, requiring 36 drivers. Canadian drivers would be stationed in Whitehorse with a round trip haul requiring 3 drivers. Whitehorse would be the terminus for administration and equipment maintenance and repair services.

The U.S. shuttle operation would require 3 1/2 hours to complete with 2 1/2 hours for driving and 1 hour for handling.

Capital costs for the entire operation would be nearly $9 million for tractor, trailer and container acquisition.

The annual trucking costs for a 3 year contract for our base case scenario are presented in Table 6.25. Similar to the Faro-Skagway route, we've assigned to overhead costs a cost of capital, a reasonable profit and return on equity.

Table 6.25

TRUCKING COSTS FOR THE FARO-HAINES ROUTE

(1983 $)

	$000
Driver Costs	8,621
Tractor Costs	9,754
Trailer Costs	2,874
Container Costs	371
Terminal Costs	1,447
Depreciation Costs	2,607
Total	25,674
Overhead Costs	7,668
Grand Total	$33,342
Cost per Tonne	$63.08

The effect on total trucking costs due to changes in volume and contract life is found in Table 6.26.

Table 6.26

HAINES ROUTE

(1983 $)

		326,600 tonnes	
Contract:	3 yr.*	3 yr.	1 yr.
Cost (000's)	$23,183	$23,787	$28,244
Cost/Tonne	$ 60.81	$ 62.40	$ 74.09
		474,000 tonnes	
	3 yr.*	3 yr.	1 yr.
Cost (000's)	$32,483	$33,342	$39,782
Cost/Tonne	$ 61.45	$ 63.08	$ 75.26
		680,400 tonnes	
	3 yr.*	3 yr.	1 yr.
Cost (000's)	$45,398	$46,572	$55,546
Cost/Tonne	$ 61.76	$ 63.36	$ 75.57

* depreciation on trailers and containers is calculated over 8 years

As was the case with the Faro-Skagway route, there are no economies to scale with increasing volumes on this route as the cost per tonne essentially remains constant as tonnage increases under any contract.

Benefit Analysis

The route to Haines is a route for which reconstruction is already contemplated irrespective of CAMC trucking plans. However, from an engineering and safety point-of-view the Haines route cannot now support CAMC B-train trucking and would not, under current reconstruction program schedules be able to do so until the late 1980's.

Apart from the technical difficulties of B-train ore trucking on this route as is, "it would create a disasterous unsafe vehicle mix combining the truck density with the tourist traffic coming from and going to the ferry terminal at Haines. The ferry tourist traffic is supplemented by the Kluane Park tourist traffic, this highway abbutting the Park Boundary", as stated by J.C. Hudson, PWC. He also noted that the additional maintenance cost on this route, if reconstruction had not been completed, would be "astronomical" as it would also be on the South Klondike Highway Route.

Trucking on the Haines Highway Route compared to the South Klondike Highway Route would, however, involve substantially greater Canadian employment.

Estimated tax revenues from this route are seen in table 6.27.

Table 6.27

HAINES HIGHWAY ROUTE
ESTIMATED TAX REVENUES

Item	Canada
Payroll ($000,000/yr)	9.0
Fuel ($000,000/yr)	4.9
Personal Income Tax ($000,000/yr)*	1.8
Fuel Tax ($000,000/yr)**	1.0
Corporate Tax ($000,000/yr)***	1.2
Total Tax ($000,000/yr)	4.0

* 20% of Gross Income.
** 42¢/gallon.
*** Based on 40% of Net Revenue.

Net Cost-Benefit Analysis

The foregoing cost-benefit analyses for the Haines Highway Route are summarized in table 6.28.

Table 6.28

COST OF HAINES HIGHWAY OPTION

(000,000$/yr)

a) Economic Value of Road (Canada)	4.6
b) Economic Value of Road (Alaska)	0.4
c) Truck Costs	33.3
d) Terminal Costs	3.3
Cost	41.6
Canadian Tax Revenue	(4.0)

6.5 The Stewart Highway Route

Description of the Stewart Highway Route

Trucking over the Faro-Stewart route covers a one way distance of 1,077 km. The route is comprised of several route segments through Yukon and British Columbia. Each of these are described by Mr. J.C. Hudson of PWC who obtained parts of the information from Yukon and the B.C. Department of Highways.

Campbell Highway km 427.4-381.3 (Faro Cut-off to Ross River) From the Faro cut-off it is 11.3 km to the Town of Faro; the road winds down to the Pelly River Bridge and up the north side to the town. The Cyprus Anvil mine is approximately 20 kms beyond Faro.

With the exception of the paved section from Watson Lake to its airport, this is perhaps the best section of the Campbell Highway. Notwithstanding this, it is inadequate for a "B" Train haul. The width is 8.5 m with only gravel and binder as a surfacing, with no base course. This surfacing material is 19-25 mm screened material - not crushed - with 100 mm being applied every four years. Poor alignment in combination with grades in excess of 6% exist west of Grew Creek.

Campbell Highway km 381.3-10 (Ross River to Watson Lake Airport) The highway is extremely narrow with a width of 5.5 m. It is presently hazardous meeting even a regular semi-trailer truck. The highway was constructed to the then "Development Road Standards" in 1960-64 and has had little upgrading since. The area traversed predominates in silt tills with very little gravels along the route. Some shaley deposits are present and are used where available for surfacing material. Poor grades of over 8% exist in numerous places including east of Finlayson Creek, east of Tuchitua Creek and east of Frances River (combined with poor alignment). Another example of poor alignment is east of Morton Creek where there are numerous "S" curves. Surfacing material is as described above under km 427.4-381.3.

Campbell Highway km 10-0 (Waton Lake Airport to Watson Lake) This section has recently been rebuilt and paved with 80 mm hot mix asphalt applied over 150 mm of 19 mm crushed gravel. Paved width is 7.3 m with 0.6 m gravel shoulders. The alignment contains one poor 90° curve and grades up to 5% although generally it is a 80 km/h design. This pavement is considered light for a "B" Train haul and would have to be reinforced with more base course to prevent a very short life.

Alaska Highway km 1022-1043 (Watson Lake to Cassiar Turn-off) South of km 1025, the highway was reconstructed and hot mix asphalt paved in 1972. The two mats total 7.3 m wide, 80mm thick, with 2.1 m wide shoulders. North of km 1025, the highway was reconstructed in 1978 with a BST application in 1980. The BST is applied 7.5 m wide with 2.5 m gravel shoulders. The pavements are placed over 80 mm of 19 mm crushed base course and 160 mm of 50 mm subbase course. Although horizontal alignment is good, there is a sustained 6% grade descending into the Liard Valley at the Upper Liard Crossing. Notwithstanding shorter BST life expectancies, the highway will stand up to "B" Train hauls.

Cassiar Highway km 738-735 (Cassiar Junction to YT/BC Border) This section of highway is BST covered and is 8.5 m wide and will have to be reconstructed prior to a sustained "B" Train haul.

Cassiar Highway km 735-706 (YT/BC Border to Blue River) Road width is 10.4 m wide and gravel surfaced. The BC Government advises that they have scheduled a BST application in 1984.

Cassiar Highway km 706-493 (Blue River to Gnat Pass) Road width varies from 7.3 m to 10.4 m, BST surfaced with some hot mixed asphalt pavement along Dease Lake.

Cassiar Highway km 493-164 (Gnat Pass to Meziadin Lake Junction) Road width varies from 7.3 m to 10.4 m with a gravel surface. BC Government intends to BST 25 km in the Bob Quinn area (vicinity km 270) in 1984.

Stewart/Hyder Highway km 62-0 (Meziadin Lake Junction to Stewart) Road width is 10.4 m with hot mix asphalt pavement and sufficient subbase and base courses to withstand Arrow Transports 132,000 lb. "B" Trains from Cassiar Asbestos Mine, which joins the Cassiar Highway at km 619.

Stewart/Cassiar Highway General Considering the portion of these highways under review that BC maintains, namely 636 km; 517 km already experience a "B" Train haul averaging 6-7 trucks a day. BC's long range plan is to hot mix asphalt pave from Stewart to km 328 due to the influence of coastal precipitation and BST from km 328 to the BC/YT border at km 735, all after non-scheduled upgrading.

The Stewart Highway Route Costs

Mr. J.C. Hudson of PWC provided the following with respect to the costs of reconstructing the Stewart Highway Route to handle CAMC B-Train operations.

"As no surveys are present for most of this route, it is necessary to use average costs/km. Where as it is considered practical to reconstruct the Klondike Highway route and the Whitehorse-Haines route to sufficient strength by employing crushed granular base courses prior to applying BST or pavement, the author is not confident that sufficient good quality gravels can be found between Faro and Watson Lake. It is consequently deemed necessary to leave the southeast portion of the Campbell Highway with a gravel surface, with the associated high maintenance costs".

CAMPBELL HIGHWAY (FARO-WATSON LAKE) CAPITAL COST

LOCATION	KM	LENGTH	$ X MILLION/KM	TOTAL COST ($ X MILLION
Faro-Ross River	427.4-381.3	46	.100	4.600
Ross River - Watson Airport	381.3-10	371	.225	83.475
Ketza Bridge	350			1.500
Hoole Bridge	312			1.500
Tuchitua Bridge	112			2.000
				93.075

ALASKA HIGHWAY (WATSON LAKE - CASSIAR TURN-OFF) CAPTAL COST

YEAR PRESENTLY SCHEDULED	LOCATION ON ALASKA HIGHWAY	OPERATION	COST ($ X MILLION)
86	1022-1043	Asphalt Paving	2.500

CASSIAR HIGHWAY (ALASKA HIGHWAY TO CASSIAR TURN-OFF) CAPITAL COST

LOCATION	KM	LENGTH	OPERATION	TOTAL COST ($ X MILLION)
Cassiar Junction to Meziadin Junction	619-164	455	Upgrade bridges and roads to pavement south km 328 and BST north of km 328	30.360
Meziadin Junction to Stewart	0-62	62	no work required	-
				30.360

USE $30 million

Considering the above estimates, we conclude that in order to place the Stewart Highway Route in a condition to handle CAMC B-train ore trucks would cost in the order of $136 million.

Incremental Maintenance Cost of Stewart Highway Route

Mr. J.C. Hudson of PWC, estimated that after the above capital was spent, there would be an incremental maintenance cost of about $4.7 million per year as a result of CAMC B-train ore trucks on the Stewart Highway Route.

THE TRUCKING COSTS

In order to haul the concentrate tonnage for our base case analysis, 65 B-trains with pay load capacities of 42.5 tonnes would be required to complete the operation. Average winter/summer speed would be 34 m.p.h. as the round trip would take nearly 40 hours to complete.

Backhaul requirements would be handled by 8 of the 65 trucks on a full-time basis.

The truck operation would employ 150 drivers, likely stationed in Watson Lake where administration and equipment maintenance functions would be centred as well.

Capital costs for equipment acquisition would be $10 million.

The annual trucking costs for a three year contract for the base case tonnage scenario are presented in Table 6.29.

Table 6.29

TRUCKING COSTS FOR THE STEWART HIGHWAY ROUTE

(1983 $)

	000 $
Driver Costs	9,461
Tractor Costs	12,769
Trailer Costs	3,681
Container Costs	466
Terminal Costs	965
Depreciation Costs	2,941
Total	$ 30,283
Overhead Costs	8,492
Grand Total	$ 39,225
Cost Per Tonne	$ 74.21

The effect on total trucking costs due to changes in volume and contract life is illustrated in Table 6.30.

Benefit Analysis

The major theoretical benefit of the Stewart Highway Route is that it is an all-Canadian route. The costs are, however, huge. For instance, the value of funds used in the upgrading of the route would be about $15.6 million/year which with incremental maintenance costs of $4.7 million/yr and truckig costs of $39.2 million per year renders this route out of the question.

Table 6.30

SENSITIVITY OF TRUCKING COSTS WITH VOLUME AND CONTRACT LIFE CHANGES

STEWART ROUTE

		326,600 tonnes	
Contract:	3 yr.*	3 yr.	1 yr.
Cost	$26,948	$27,711	$32,791
Cost/Tonne	$ 70.69	$ 72.69	$ 86.02
		474,000 tonnes	
Contract:	3 yr.*	3 yr.	1 yr.
Cost	$38,145	$39,225	$46,491
Cost/Tonne	$ 72.16	$ 74.21	$ 87.95
		680,400 tonnes	
Contract:	3 yr.*	3 yr.	1 yr.
Cost	$53,874	$55,938	$65,727
Cost/Tonne	$ 73.30	$ 75.37	$ 89.42

As is the case with the othe two truck routes, economies to scale are non-existent with increasing tonnages.

Table 6.31

STEWART HIGHWAY ROUTE
ESTIMATED TAX REVENUES

Item	Canada
A. Payroll ($000,000/yr)	13.1
B. Fuel ($000,000/yr)	7.8
C. Personal Income Tax ($000,000/yr)*	2.6
D. Fuel Tax ($000,000/yr)**	1.6
E. Corporate Tax ($000,000/yr)***	1.4
F. Total Tax ($000,000/yr)	4.6

* 20% of Gross Income.
** 42¢/gallon.
*** Based on 40% of Net Revenue.

6.6 Comparative Cost Summary

Table 6.32 summarizes the direct and indirect costs of each of the four transportation options.

It should be noted here, that this analysis includes both costs to CAMC and the costs to it or to Government related to provision of adequate transportation infrastructure. Some would argue that Government and the public should bear the cost of road infrastructure even though other options exist with no infrastructure costs or lesser costs to Government. Our conclusions in Section 7.0 will deal with this argument and a further evaluation of these costs.

Table 6.32

COMPARATIVE COST ANALYSIS

($000,000/yr)

Route	Optimistic	Pessimistic
A. WPY truck-rail		
a) truck-rail	28.6	32.3
b) terminal	3.0	3.0
Total	31.6	35.3
Can. Tax Revenue	(3.0)	(3.2)
B. South Klondike Highway		
a) truck	26.7	26.7
b) terminal	3.0	9.9
c) highway	4.7	8.3
Total	34.4	44.9
Can. Tax Revenue	(3.2)	(3.2)
C. Haines Highway		
a) truck	33.3	33.3
b) terminal	3.3	3.3
c) highway	5.0	5.0
Total	41.6	41.6
Can. Tax Revenue	(4.0)	(4.0)
D. Stewart Highway		
a) truck	39.2	39.2
b) terminal		
c) highway (minimum)	20.3	20.3
Total (minimum)	59.5	59.5
Can. Tax Revenue	(4.6)	(4.6)

7.0 CONCLUSIONS

7.1 Introduction

This report presents our findings, to-date, with respect to the most urgent issues relevant to the near term transportation requirements of Yukon. We have only included findings that are directly relevant to those urgent issues in order to expedite the formulation of recommendations to Yukon.

We believe, at this point in time, that our conclusions should be made known to the public. However, it is not our intention to formulate our final recommendations to Yukon without first receiving feedback on the content herein, for the following reasons:

1) the companies, government agencies and individuals who provided us with the information and data used herein, did so unilaterally, without the benefit of knowing the views of others;

2) the evidence gathered this summer and early fall, may no longer be completely valid, as circumstances may have changed and opinions may have altered;

3) interested parties may disagree, with the numerous assumptions used in dealing with economic, financial and engineering matters; and

4) there may be those who were unable to meet with us or to express their opinion prior to this time, or who chose not to do so until now.

This is not to say that we have any strong reservations about the validity of our findings to-date. Nor do we doubt our conclusions insofar as they represent a logical progression from the evidence we have gathered and the analyses we have performed. We do not feel obliged to apologize for the assumptions and methods that we have had to adopt out of necessity.

The following conclusions must therefore be read in this context. They are subject to change pursuant to our evaluation of the readers' reaction. In this respect, we hope to obtain thoughtful and objective response from industry and the public to assist us in this difficult matter. This will hopefully enable us to recommend a lasting resolution to Yukon on the immediate and near future transportation problem.

WE THEREFORE REQUEST INTERESTED PARTIES TO COMMENT HEREON BY FEBRUARY 15, 1984.

7.2 General Considerations

Yukon perceives that there is an urgent and major transportation problem pertaining to the future servicing of concentrate that may be produced by Cyprus Anvil Mining Corporation (CAMC) at Faro. That perception is widely held. Opinions on the degree and implications of this problem and solutions thereto varies with individual vested interests. Having given due consideration to all we have heard, and having conducted the necessary analyses, we are not convinced that the "transportation problem" is as urgent or as significant as we were initially led to believe.

The decision by Dome to close down the mine at Faro, just after it purchased CAMC from Hudson Bay Oil and Gas in 1982, has caused Yukon significant economic hardships. That mine closure led to the temporary economic demise and subsequent suspension of most of the White Pass and Yukon Corporation's (WPY) freight transportation operations in Yukon. That suspension itself has posed further economic difficulties. It is self-evident, however, that the cause of these difficulties has nothing to do with transportation.

The closure of the CAMC mine in 1982 is easily understood. It was sustaining huge losses and had a heavy debt. Our analyses indicate that the cost of land transportation could not have had a significant impact on the reasons for Dome's decision. Indeed, in 1981 and 1982, had WPY provided CAMC with free transportation from Faro to Skagway, CAMC would still have lost in the order of $68 million, and $52 million, respectively. Over the years, CAMC land transportation costs have not escalated as fast as other costs related to CAMC's operations. Neither had WPY overcharged for its services, as evidenced by its own poor economic performance.

The past is the past, however, and no one would question that, if and when CAMC succeeds in finding buyers for its mine products at a price that renders its operations economically viable, it will require efficient and low cost transportation services to tide water port. The cheaper the better - not only for CAMC, but also for Yukon.

The "transportation problem" is only urgent if CAMC does, in fact, recommence production in the near future. This event is not a "sure thing". CAMC does not know if or when it will be able to start up its mill. It has no contracts for its production. It has tried unsuccessfully to sell its mine. World demand and prices are insufficient, at this time, to render the mine at Faro economically viable, in consideration of CAMC's production and debt costs. CAMC's production and debt costs will likely continue to be high relative to other base metal mines. It has a debt of $190 million, according to CAMC. Moreover, when asked, CAMC could not, or would not, tell us specificallly under what conditions (price levels, acceptable profit, etc.) it would consider its operations to be economically viable. We know, nevertheless, that production could not commence before the fall of 1984 and then, only if CAMC decides to do so before April 1984. If that decision is not made before April 1984, CAMC claims production could not recommence before the fall of 1985. In short, we find very little to conclude that there is a strong promise for early shipments from the mine. We are not convinced that transportation costs alone have a major impact on CAMC's decision to produce in 1984. We are therefore not convinced that the "transportation problem" is, in fact, urgent.

From another perspective, the "transportation problem" is only a major problem if there is no adequate transportation system(s) in place for certainly, if that was the case, CAMC would be physically restricted from marketing its product abroad. That is not the case. There is at least one adequate transportation system available to CAMC at this time - namely the WPY truck-rail operation between Faro and Skagway. It is a proven system and, although certainly not ideal, it has served CAMC since 1970 and Yukon since 1898. It is also available on short notice, at a nominal start-up cost of $250,000, according to WPY.

A second routing is also theoretically available to CAMC and, although untried by CAMC and requiring the construction of a new ore shed, shiploading equipment, and other terminal facilities, the all-truck route from Faro to Haines, Alaska will be technically feasible upon completion of all of the presently ongoing and contemplated road reconstruction programs.

A third routing is theoretically possible, if Yukon permits - that being the all-truck operation from Faro to Skagway via the "Carcross-Skagway Road" otherwise referred to as the South Klondike Highway. A major road reconstruction program would be required prior to CAMC using this route. It is not now open year-round.

A fourth routing is also theoretically possible - that being an all truck route to Stewart, B.C. Although substantially longer than the other available routes and necessitating massive expenditure on road infrastructure, it offers the benefits of an all-Canadian route and an existing terminal facility in Canada.

The important point here is, that CAMC does not suffer from a lack of a physically available transportation option. CAMC is not physically restricted from marketing its production. The suggestion that it is the Federal and/or Yukon responsibility: to spend public funds to provide multiple competing transportation facilities for CAMC; and to subsidize or underwrite existing transportation systems to be competitive with others that possibly might be created by the use of public funds, is highly questionable. The rationalization of such expectations is at the heart of the real problem before us.

7.3 Cyprus Anvil Mining Corporation's Position

CAMC would prefer to have its traffic transported by truck from Faro to Skagway via the South Klondike Highway. This is because CAMC believes that the cost to it of using this route would be less than CAMC's estimate of the cost of using the traditional WPY system by $11 million plus per year. This figure is based on a long list of assumptions and presumptions - a number of which give us concern.

Notably, there is a significant difference of opinion with respect to the criteria necessary for granting permission and approval for CAMC to transport its concentrates and backhaul traffic on 70-foot, 7-axle B-train trucks, with 134,500 lbs. gross vehicle weight (g.v.w.), on the Canadian and Alaskan sections of the South Klondike Highway. On the Canadian section, the differences do not pertain to the technical feasibility of doing this. Rather, the differences center on public safety - an area which is the responsibility of the Yukon Government. In Alaska, the question of public safety is also prevalent.

There is also a question of cost. The South Klondike Highway is not now open during the winter. Just as it is no easy task to keep sections of this road free of snow and ice, to do so is expensive and would not otherwise be done, except for CAMC truck usage.

CAMC ore trucking will also subject parts of the infrastructure to wear which will reduce that infrastructure's effective life, with the attendant costs. CAMC contends its trucking operation would offer "a high standard of safety" without altering the road width, adding passing lanes, scenic "pull-offs" and the like. That conclusion was based on its consultants from Trimac, who admittedly are not professional highway engineers, but truckers and who have driven the highway only once or twice. We have discussed the matter of safety with professional highway engineering authorities in the Yukon Government, the Government of British Columbia and the Federal Department of Public Works - all of whom have responsibilities for design, construction and/or maintenance of northern highways which are subjected to unique environmental extremes and heavy industrial usage. They are also knowledgeable of issues pertaining to public safety on these highways. The Yukon Government advice leads us to conclude that CAMC ore trucking, without a minimum Canadian reconstruction program costing $18 to $20 million, would unnecessarily jeopardize public safety. Alaska would likely refuse to pay for snow removal or costs necessary to ensure public safety.

A reconstruction program of this type would take 3 to 5 years to complete and it is questionable whether Yukon would or should lift its truck weight restrictions until public safety is ensured. It appears that the Alaskan Government would not lift its current restrictions which would significantly increase the costs of trucking on this route due to the need to shuttle trailers in Alaska.

CAMC, and Trimac conclude, however, that "...approval for hauling ore loads to Skagway appears to be a political question, rather than one of technical or financial concerns". We do not agree with this opinion. We realize that the decision to grant permission for the use of the South Klondike Highway by CAMC would be made by political authorities in Yukon and Alaska, for whom we have great respect. We are positive that the advice of professional highway engineers would be sought with respect to the cost of ensuring public safety. We do not believe that such an important decision would be made in isolation of technical and financial considerations.

We do, however, agree that "political" matters will be considered in deciding whether or not the spending of public funds is necessary to permit CAMC to use its preferred transportation route. These public funds would not be spent on the South Klondike Highway except for CAMC's use of the road. The expenditures, therefore, are in effect a subsidy to CAMC. To the extent that CAMC realizes transportation cost savings, over the costs of existing transportation options, those savings effectively result from a transfer of part of the corporate expense of CAMC to the public. As well, it is the public that inadvertently would accept all the risks of the investment to yield savings to CAMC. This is a rather high risk because there are no guarantees as to how long CAMC would continue to use the South Klondike Highway by choice, or as a result of it having to close down again. That, to us, is a major political question and concern.

CAMC, interestingly enough, made it perfectly clear that it was not in favour of subsidies "...because subsidies ultimately have to be paid by Canadians". In this particular situation, we fully agree with CAMC.

CAMC told us that their second preference would be to truck to Haines, Alaska. Based on expert advice, we have difficulty with accepting that such operations would be technically feasible and safe until the presently contemplated reconstruction programs on this route are complete. Although these programs might possibly be accelerated to permit CAMC trucking to Haines, that acceleration would involve costs that would not otherwise be incurred by Government except for CAMC trucking operations.

We also had difficulties with the direct trucking cost estimates, which CAMC's consultants admitted did not reflect "realistic rates that would be charged by a prudent trucking firm". Based on CAMC's consultants own profit criteria, the CAMC trucking cost figures were adjusted by us to reflect realistic rates and what we considered to be realistic operations. Even with the sizeable cost of road reconstruction, additional snow removal and incremental maintenance on the South Klondike Highway paid for by the public, and with the cost of accelerating road reconstruction programs on the Haines Route paid for by the public, the potential savings estimated by CAMC appear to be far more than we believe would be realized. For example, under certain scenarios, we believe CAMC would risk a loss on the South Klondike Highway relative to the WPY truck-rail option and CAMC would realize no savings on the Haines Route relative to the WPY truck-rail option.

Apart from this, the CAMC basic position is:

> "If trucking to Skagway is not approved, Cyprus Anvil may delay returning the mine and mill to full operations and may even reduce current activities" (i.e. those stripping activities made possible by a Federal Government aid program).

Although possible, we really find it very hard to believe that such a delay or reduction would be initiated on the sole basis of the above-stated reason.

We trust that CAMC will consider our cost comparisons and reconsider its position. We also hope that CAMC will be able to be more definitive as to its future decisions on opening its mine. Without more concrete evidence that mine operations will recommence and continue production for some reasonable period of time, the consideration of further financial assistance to CAMC, direct or indirect, would be very difficult for us to recommend.

7.4 White Pass and Yukon Corporation's Position

WPY "suspended" its railway operations and dismantled other parts of its transportation system as a result of the closure of the CAMC mine. It simply could not remain economically viable without the base revenue from CAMC traffic. Neither could it continue its seasonal passenger operations at a substantial loss - largely due to exceedingly high U.S. labour wages and burden.

We have reviewed WPY's financial position and its operating expenses in detail and agree with WPY that its railway could not possibly be economically viable without CAMC traffic. If CAMC does not recommence production at traditional levels; or, if once producing, and if the route to Haines has been reconstructed as currently planned, and CAMC elects to employ the transport option to Haines; or, if the Governments permit CAMC to truck on the South Klondike Highway, as CAMC wishes; we conclude that the WPY railway will not operate again.

The WPY position is:

1) the railway will not operate again unless it "breaks-even";

2) if for any reason, "break-even" railway revenue cannot be obtained, the Federal government should subsidize either WPY or CAMC by the amount of the revenue short-fall from the break-even level;

3) if Yukon permits CAMC to truck on the South Klondike Highway, and CAMC is successful in obtaining the same permission from Alaska, and CAMC chooses to do so, the Government should purchase the operating assets of the railway, including the passenger and freight operations and provide for an easement for the WPY pipeline;

4) if CAMC remains inoperative, WPY cannot continue to "haemorrhage" financially while waiting for a potentially break-even situation, the Government should cover its shut-down costs;

5) a long term solution to the WPY problem should be found as a short term "band-aid" solution is unacceptable.

With respect to WPY's position we conclude that:

1) The railway should not be operated again, unless the railway "breaks-even", as in principle, no company should be expected to sustain losses in perpetuity;

2) If the Federal and/or Yukon Government guaranteed a long term subsidy program to ensure a continued break-even revenue to the WPY railway, that would certainly eliminate any business risk to WPY and Federal Industries with respect to the railway. Such assurances would also eliminate any drive for WPY to negotiate vigorously fair market value rates, and reasonable labour contracts and to effectively control costs, the burden of which would ultimately be transferred to the public purse. Present subsidy requirements, based on traffic scenarios, provided by WPY, and given current labour contracts, could exceed $5 million per annum. In the long term, the price of such a subsidy to the public could be staggering - particularly if CAMC could not, or may not, employ the railway for its traffic. With respect to whether or not Government should even contemplate a long term subsidy to guarantee WPY a "break-even" revenue, it must first be determined that: a) the WPY truck-rail route charges to ensure "break-even" on the railway is, in fact, not competitive with charges of other transport options; and b) the cost and benefits of that subsidy program warrant the public accepting the financial responsibility and the attendent risks.

3) If the Federal and/or Yukon Government purchased the passenger and freight operations, including the operating assets of the railway, it would expend $23 million ($9.9 million share value, plus $13 million debt owing to WPY Corporation) for potentially little more than a static tourist and heritage attraction. It would also accept the legal obligations now posessed by WPY with respect to the railway, including obligations for severance pay and pension benefits to its U.S. employees which could exceed $10 million, thereby increasing the purchase price to at least $33 million. All things considered, we sympathize with the plight of the management of WPY and of its parent, Federal Industries. It must, however, be remembered that when Federal Industries purchased the WPY railway in July 1974, it must have been aware that it was purchasing not only what was then a near monopoly on transportation into Yukon, with all the associated rewards which could have been derived therefrom, but also a main line railway federally regulated in Canada and in the United States, with all the obligations that that entails. Federal Industries accepted the risk at that time, presumably in expectation of sizeable profits. It now has for some time lived with the consequences of that purchase and economic factors beyond its own control. Nevertheless, we conclude that there are no legal or moral grounds that "oblige" Government to purchase the WPY railway whether or not the South Klondike is opened to CAMC traffic. The Government could, however, consider the possibility of exempting WPY from those provisions of the Railway Act that restrict if from abandonning the WPY railway.

4) If Government agreed to cover the WPY "shut-down costs" while it awaits CAMC start-up, the cost would be less than $1,000,000/year. This would compensate for: a) adequate watchman security of railway property; b) railway-related material, services, rentals, fuel, and utilities; c) half of the inter-corporate debt costs related to railway operating property; d) railway-related property tax; and e) insurance on railway property and assets. If the Canadian Government was to compensate WPY for a complete shut-down, we believe that the compensation should be only for the after-tax corporate expense to WPY and that the State of Alaska should share the costs to the extent that those costs are incurred in Alaska because of the longer term benefit to Alaskans. With respect to whether or not Government should even contemplate a complete shut-down subsidy, it must first be determined if: a) the WPY truck-rail route charges to ensure "break-even" on the railway are in fact not

competitive with charges of other transportation options; and b) CAMC would actually not commit to use WPY if WPY was competitive.

7.5 WPY Break-Even Conditions

In order to evaluate the total cost to CAMC for WPY truck-rail services, there are two extreme scenarios: trucking charges from Faro to Utah, plus Skagway terminal charges, plus rail costs under: a) existing rail labour contracts; and b) maximum probable rail labour concessions, estimated by WPY, such that the railway breaks-even.

The results of our analyses are as follows:

	Existing Rail* Labour Contracts ($000,000/yr)	Optimum Rail* Labour Concessions ($000,000/yr)
Faro-Utah trucking charge**	16.0	16.0
Utah-Skagway railway charge	16.3	12.6
Skagway terminal charge	3.0	3.0
Total	35.3	31.6

* based on an average annual CAMC forecast to 1990 of concentrate and backhaul traffic; and a WPY forecast of realistic non-CAMC freight and passenger traffic levels and rates/fares in 1983$.

** based on most probable truck rate assuming 3 year contracts with 3 year equipment depreciation.

For any other transportation option to be competitive with WPY the cost to CAMC of that option must be less than the above cost estimates, in consideration of the cost to the public of permitting CAMC to utilize those other transportation options.

7.6 South Klondike Highway Route

In order to evaluate the competitive position of the South Klondike Highway route with the existing WPY system, the costs of this option must be first categorized from CAMC's point of view and then from the Government's point of view.

From CAMC's point of view, it expects Government to bear all costs related to the South Klondike Highway infrastructure, snow removal and incremental maintenance. Under these conditions, the costs to CAMC would only be direct trucking rates, plus Skagway Terminal Co. charges. With respect to trucking rates, CAMC hopes to obtain one year contracts at a time. Realistically, a three year contract, with rates based on 3 year equipment depreciation, would be more acceptable to major trucking firms.

With respect to the Skagway terminal charges set by WPY, the lowest cost would not likely be less than existing charges, in 1983$. The highest terminal charges would likely be based on the total trucking charges plus terminal charges to Haines, less the trucking charges to Skagway, via the South Klondike Highway. In other words, by virtue of WPY's present control over the Skagway terminal, WPY could virtually charge CAMC what it wants, up to the point where the trucking charges to Skagway, plus the Skagway terminal charge, are, in total, marginally less than the total charges to CAMC of trucking to and terminalling at Haines. Therefore, from CAMC's point of view, the range in charges on the South Klondike Highway route would be as follows:

	Highest Possible Charge ($000,000/yr)	Lowest Possible Charge ($000,000/yr)
Faro-Skagway trucking charge	26.7	26.7
Skagway Terminal charge	9.9	3.0
Total	36.6	29.7

Comparing this possible range of charges to CAMC, with the possible range of charges on the WPY system, the simplistic position taken by CAMC that they would save $11 million in transportation costs per year, by using the South Klondike Highway, appears to be highly questionable. The range of possible savings (if any) to CAMC, assuming the public bears all road costs, depend upon:

a) the extent of railway labour concessions; and

b) the extent to which WPY takes advantage of its monopoly position with respect to its ore terminal in Skagway.

The savings (or losses) to CAMC as a result of using the South Klondike Highway route, assuming CAMC pays no part of the costs of that highway are as follows.

	Existing Rail Labour Contracts ($000,000/yr)	Optimum Rail Labour Contracts ($000,000/yr)
A. White Pass and Yukon Route Charge	35.3	31.6
B. Highest possible South Klondike Route Charge	36.6	36.6
C. Savings or (Losses) to CAMC (A-B)	(1.3)	(5.0)
D. Lowest Possible South Klondike Route Charge	29.7	29.7
E. Savings or (Losses) to CAMC (A-D)	5.6	1.9

At best, CAMC might save $5.6 million per year, if railway labour makes no concessions to WPY. If the railway labour unions gave reasonable concessions to WPY, the best that CAMC could save would only be $1.9 million per year, assuming CAMC pays no part of the South Klondike Highway costs.

From another perspective, if WPY maximized its ore terminal revenues, CAMC would under no foreseeable situation, be able to save anything. In fact, it could possibly lose up to $5.0 million per year, relative to the transportation charges to it, had it chosen to utilize the existing WPY system with the present terminalling charges and paying WPY a break-even rate.

With respect to the foregoing we conclude:

1) it would be unconscionable for WPY to place CAMC at ransom by charging the maximum possible terminal charge at Skagway and we do not believe that WPY would adopt this extreme type of pricing policy - given CAMC's attempts to be competitive in the world metal market;

2) given the relatively high significance of railway labour costs to total railway expenses (58%), the extremely high railway labour wages, and highly protective work rules, railway labour could significantly improve WPY's competitive position by making reasonable concessions; and

3) notwithstanding CAMC's risk of potentially losing up to $5.0 million per year, it could not realize the potential savings of up to $5.6 million without sizeable capital investment and continued expenditures by Government.

From Government's point of view, professional highway engineering opinion is that a minimum capital investment of $18-20 million in Canada, would have to be spent on the South Klondike Highway to ensure public safety, in light of CAMC ore truck operations. As well, Alaska could incur sizeable capital expense if safety became a problem. In addition, a minimum annual snow removal and incremental maintenance cost would be roughly $1,000,000/year in Canada and $400,000/year in Alaska. These capital and operating expenditures carry extremely high risk. That risk is tied to the uncertainly of CAMC's ability to become, and remain, competitive in world markets. If for reasons beyond CAMC's control, it cannot remain competitive, the public investment in the South Klondike Highway would be for nought. Even if CAMC can remain competitive, the aformentioned risks with respect to potential savings, renders, the public investment questionable.

From the public point of view, the value of the capital investment is close to bond rate, which over a ten year period is about 11.5%/year. Forgetting for the time being, that the capital would have to be repaid, and that the Government would have to accept the risks of CAMC's inability to remain competitive, the very minimum economic value of the public investment is the bond rate on the capital amount, plus the annual maintenance costs. The minimum cost to Government to permit CAMC ore trucking on the South Klondike Highway is therefore roughly estimated as follows:

	Canada ($000,000/yr)	U.S. ($000,000/yr)	Total ($000,000/yr)
Capital	2.1	0.1	2.2
Annual Maintenance	1.0	0.4	1.4
Total	3.1	0.5	3.6

* Canadian dollars.

If the absolute "best of all words" situation (i.e. Railway makes no concessions to WPY and WPY does not exploit its Skagway Terminal monopoly) is realized by CAMC, the maximum savings, net of the above minimum costs, would be $2.0 million per year. In all of the other much more probable situations with respect to the South Klondike Highway, savings to CAMC net of the above costs either turn to losses or become greater losses. If railway labour in Skagway grants WPY reasonable concessions, we see no way in which transportation savings on the South Klondike Highway could offset the required Government expenditures.

Apart from this, the year-round opening of the South Klondike Highway to CAMC ore trucking would result in the Federal Government having to forgive WPY its obligation to repay $5 million interest free loan in accord with a previous agreement.

7.7 Haines Highway Route

From CAMC's point of view, assuming it pays none of the expenses necessary to accelerate contemplated reconstruction programs on the Haines Route so as to permit B-train operations and based on the same truck costing criteria as for the South Klondike Highway Route costs, we conclude that the most probable annual cost to CAMC would be in the order of $33.3 million/year for trucking and $3.3 million/year for terminalling, for a total of $36.6 million/year. This is higher than the cost of the WPY route by $1.3 million/year, if existing rail labour contracts remain, and by $5.0 million/year, if rail labour grants reasonable concessions. The Haines all-truck route, therefore, does not appear to be competitive with the WPY system for CAMC's point of view. We therefore conclude that there are no savings to CAMC arising from their use of the Haines Route relative to the WPY truck-rail system with CAMC paying break-even rail rates.

From the Government point of view, notwithstanding the probability of CAMC losing $1.3 to $5.0 million/year, the public would incur an expense of about $5.0 million/year associated with accelerating contemplated reconstruction programs on the Haines route and incremental maintenance costs due to B-train operation.

7.8 Stewart Highway Route

Similarly, the most probable direct trucking cost to Stewart, even without a terminal charge and apart from the $135 million that the public would have to spend on roads, is $39.2 million per year - well in excess of WPY charges. The Stewart Highway Route is therefore not competitive with the WPY system.

7.9 The Bottom Line

We conclude that the "bottom line" is:

1) CAMC, at present, has only one option for the transportation of its concentrates and backhaul traffic - the WPY truck-rail system. We can find no rational reason why the Federal and Yukon Governments should

accept financial and other risks associated with road reconstruction, snow removal and incremental maintenance necessary to permit outbound B-train ore trucking on the South Klondike Highway. Neither can we find a rational reason why the Federal and Yukon Governments should accept financial and other risks to accelerate currently contemplated reconstruction programs on the Haines route just to permit B-train ore trucking to Haines. The route from Faro to Stewart is exhorbitantly expensive.

2) Once the currently contemplated reconstruction programs on the Haines route are complete, and truck configurations meet the regulatory requirements, CAMC would have the right to choose either the route to Haines by truck or the route to Skagway via the WPY Railway, irrespective of the comparative economics.

3) Although WPY appears to believe it could not charge a "break-even" rate for handling CAMC traffic, we believe it could, because, under a railway break-even situation we have shown that the WPY truck-rail system is competitive with all other transport options, all things considered. As CAMC agreed that it would ship via the WPY if it was competitive, we see no reason why it should not do so, or why it cannot pay the "break-even" rail rate to WPY. This would not alleviate WPY's short term problems in the interim or its long term problems if CAMC does not produce or will not, for non-economic reasons, employ WPY Railway.

4) If, in the short term, CAMC, for whatever reason, cannot recommence production, but is willing to commit to using the WPY Railway on the defined break-even basis, which we believe is competitive (particularly if railway labour unions grant WPY reasonable concessions), then we believe WPY should be compensated for losses of a "complete shut-down scenario" (except for U.S. management costs) until CAMC commences shipments on the WPY Railway. In this respect, we believe WPY should first seek such a commitment from CAMC and should rigorously negotiate maximum labour concessions at the earliest possible date. It would cost no more than $1,000,000/year to compensate WPY adequately in "complete shut-down" situation. The State of Alaska could share in that compensation - particularly for costs incurred in Alaska to the future benefit of Alaskans. This would not be a "band-aid" solution in our mind, as it would compensate WPY while it waits for CAMC, and it provides WPY a longer term "break-even" situation with which it agreed it would be satisfied.

5) If, for whatever reason, CAMC either decides not to use WPY when it comes into production, or if the date of production is not definite and likely not in the near term, or if CAMC refuses to commit to a WPY break-even arrangement as described in 4) above, then we cannot see how the WPY railway would ever operate again. If this is confirmed, there are several options:

a) The Federal Government could purchase the railway for the $23 million sale price set by WPY and subject itself to a longer term liability of $10 million, plus ownership costs. While this may be the "long term soution" sought by WPY and Federal Industries (i.e. shifting all of its business risk, financial losses and corporate obligations to the Federal and Yukon Governments) we fail to see any reason why government would, or should, feel obligated to purchase the railway;

b) The Government could lease the railway from WPY for $1 million (U.S.) per year, after depreciation, or about $2.3 million per year subject to a list of conditions - a lease price set by WPY. We believe that our above conclusions with respect to purchasing the railway apply equally to this suggestion by WPY; or

c) The Government could give consideration to exempting WPY from certain provisions relating to its mainline railway carrier obligations under the Railway Act. If such exemption was granted, that would place the WPY railway division on similar footings as the other divisions of WPY which WPY consider to be "at business risk". Under these circumstances, WPY points out that it would have the ability to "relocate assets", "discontinue" the division, or dispose of segments thereof in a "normal business" manner. We believe that, all things considered, at this time, and under these conditions, this option is the only realistic action that Government could take.

6) From a Canadian Government point of view, there is no benefit from it operating or subsidizing a seasonal tourist train. It simply has no significant benefit to Yukon tourism. However, it may be of benefit to Skagway. Whether or not a tourist train operates on its own is then a matter to be resolved between the State of Alaska, Skagway, WPY, the railway labour unions and any third party interested therein. If, however, CAMC ships over the WPY, then WPY should resume passenger operations.

8.0 RECOMMENDATIONS

Although we do not intend to present our final recommendations to Yukon until after February 15, 1984, and when we have had time to review the comments of interested parties on the contents herein, we feel it is essential to convey the recommendations that we have evolved to-date.

1. The Yukon Government should not permit year-round heavy ore truck operations on the South Klondike Highway (Canadian Section), from Carcross to the U.S. border, to service traffic from any Yukon mine, including CAMC, until such time as it is proven irrevocably that:

   a) the operation is not only technically feasible, but also, in consideration of road geometry, base, structures and other characteristics, is not hazardous to the public for whom the road was originally opened; and

   b) the total direct and indirect cost of the truck operation is less than the total direct and indirect costs of other available or potentially available transport options - these direct and indirect costs to include: i) truck costs/rates, ii) terminal charges, iii) annualized capital costs road improvement that would not otherwise be spent except for the ore truck operation amortized over a guaranteed life of the ore truck operation at a minimum guaranteed traffic volume, iv) winter snow removal costs, v) incremental maintenance costs, and vi) all other direct and indirect costs of the truck operation.

   Criteria a) and b) are not now met and we do not believe they could be met for some time.

2. The Yukon or Federal Government should not accelerate the currently contemplated reconstruction and road improvement programs on the route to Haines, Alaska solely to facilitate CAMC B-train ore truck operations to Haines.

3. The Yukon or Federal Government should not provide Canadian public funds to WPY, or its parent, Federal Industries, for the purchase or lease of the WPY Railway or of the related facilities and extensions thereto.

4. The Yukon or Federal Government should not provide Canadian public funds to WPY or its parent, Federal Industries, to subsidize the sole opertion of a seasonal tourist train on the WPY Railway.

5. Subject to recommendation 6), the Yukon or Federal Government should not even contemplate the provision of Canadian public funds, in the form of grants, interest-free loans or subsidy, to WPY or its parent, Federal Industries, for the operation of the WPY Railway or related facilities and extensions thereto until such time as CAMC, WPY, United Transport Union employees of WPY and Teamsters Union employees of WPY have clearly demonstrated to Government their conscientious and expeditious desire to co-operate amongst themselves, in their own self-interest, towards the resolution of a mutually acceptable and reasonable term agreement with respect to the transport of CAMC traffic by the WPY Railway and with respect to the pricing of that transportation service and conditions related thereto - without Government financial intervention. In this respect, if any, and preferably all, of these parties are willing and if they, Yukon and CTC agree, we are prepared to convene a meeting(s) as part of this inquiry to assist in formulating such an agreement using this report and our final recommendations as a basis for discussion.

6. If such a meeting or an arrangement is not possible, then, until the time when CAMC resumes shipments, Canadian Government should compensate WPY for certain unavoidable costs incurred in the "complete shut-down" of the WPY Railway. Compensation levels should be verified by an independent accounting of the after-tax corporate expenses to WPY of: a) adequate watchman security of railway operating property; b) railway-related material, services, rentals, fuel and utilities; c) inter-corporate debt costs related to the railway; d) railway-related property tax; and e) insurance on railway property and assets. This compensation package would likely cost less than $1,000,000/year and, once finalized, should be reviewed after two years. We also believe that the Government of Alaska should assist by compensating WPY for the aforesaid items that are accountable to railway activities and railway operating property in the State of Alaska as a long term benefit to Alaskans in Skagway would likely ensue. If, at the end of two years, CAMC has no firm plans to utilize the WPY Railway, and there are no other major shippers willing or able to provide the traffic and revenue to permit the WPY Railway to break-even, then the Federal Government should terminate the shut-down compensation package and should

consider exempting WPY from those provisions of the Railway Act that restrict WPY from abandoning its mainline railway.

7. If and when CAMC resumes shipments, and if CAMC elects to utilize a transportation route available at that time, other than the WPY Railway, as is its right, (note: no other route is now "available") then the Federal Government should consider exempting WPY from those provisions of the Railway Act that restrict WPY from abandoning its mainline railway and terminate the aforesaid shut-down compensation package.

8. If CAMC resumes shipments and chooses to utilize the WPY Railway, WPY should charge CAMC no less than a rate on concentrate and backhaul traffic sufficient to cause the WPY Railway to "break-even" or as mutually agreed upon by CAMC, WPY and WPY labour, as discussed in recommendation 5). The charges should, at least, be compensatory and should not be set so as to create a loss leading to further requests for Government subsidy. If CAMC resumes shipment on the WPY Railway, under these conditions, the aforesaid shut-down compensation package should be terminated and no consideration should be given to the exemption of WPY from its obligations under the Railway Act. However, if at a future date, CAMC decides not to continue utilizing WPY Railway, but elects to utilize another route available at that future date, and the WPY Railway cannot "break-even" as a result, then the Federal Government should consider exempting WPY from those provisions of the Railway Act that restrict WPY from abandoning its mainline railway.

9. Irrespective of the above, any and all tariffs applicable to the WPY Railway should be appropriately filed with CTC and be comprised of rates that are at least compensatory and applicable only to transportation by the WPY Railway or filed joint rates should clearly specify the portion of the joint rate applicable solely to transit on the WPY Railway.

Appendix 1

COSTING OF TRUCK TRANSPORT OPTIONS

Appendix 1

COSTING OF TRUCK TRANSPORT OPTIONS

1.0 General

Cyprus Anvil Mining Corporation (CAMC) has stated that when it starts shipping concentrates from its mine, it has a choice of three transportation route options. In order of CAMC preference, these include: trucking from Faro to Skagway; trucking from Faro to Haines; and the utilization of the existing truck/rail operation provided by White Pass and Yukon Corporation (WPY) between Faro and Skagway.

CAMC had requested Trimac Transportation Systems Inc. to undertake a study examining the costs of direct truck operations, with certain assumptions specified by CAMC, from Faro to Skagway and from Faro to Haines. The study detailed the operations for the truck movements, identified the costs and discussed the regulatory aspects associated with trucking over each route.

CAMC requested Trimac to complete the analysis under the following assumptions:

1) Costs are to be developed for a proprietary operation. A proprietary operation is one owned and operated by CAMC with 100 percent equity, no requirement for profit or return on capital.

2) Costs are to be developed utilizing a standard B-train configuration with a payload capacity of 93,700 lbs. and a gross vehicle weight (g.v.w.) of 134,500 lbs.

3) Operations are to be 7 days per week, 24 hours per day with 5 1/2 days per month allowed for vehicle repair and maintenance.

4) There will be no requirement to split the B-trains at the Canada/U.S. border as overweight permits are assumed to be granted by the Alaskan Government.

5) The Carcross/Skagway Road is open year round.

6) Northern permits for driving over 10 hours per driver will be granted.

7) U.S./Canadian Customs is to be open 24 hours per day, year round.

The Study's results formed the basis of CAMC's submission to the Inquiry Board.

2.0 The Board's Perspective

In evaluating the transportation costs for trucking over the various routes of interest to this inquiry, we formulated its own analysis based on a number of assumptions. These included:

1) Costs are developed largely utilizing Trimac's methodology and 1983 unit cost assumptions for the various cost components used in the CAMC study. However, a few exceptions were taken into account and are described below:

a) The operations include a shuttle operation at the U.S./Canada border in order to comply with present Alaskan g.v.w. restrictions; and

b) Costs are based on a prudent truck operation rathen than a proprietary operation. A prudent truck operation is one characterized by services provided through a contract carrier covering his direct operating costs, plus cost of capital, a reasonable profit level and return on equity. Acceptable levels for these items were provided to us by Trimac and as noted earlier, were not taken into consideration for CAMC's study.

In CAMC's submission to the Board, the company provided a 6 year tonnage forecast of production between 1985 and 1990. Trimac developed annual trucking costs for the movement of the forecasted production levels with and without backhaul. For our purposes, we averaged the forecasted production and backhaul tonnages and developed costs based on the two averages. Forecasted ore tonnages averaged 474,000 tonnes while the backhaul tonnage averaged 54,600 tonnes.

However, we were interested in the sensitivity of costs to changes in ore tonnage volumes. Although this appendix details the calculations for our base case only, the methodology was applied to various tonnage scenarios to determine the cost sensitivity.

As well, we were interested in determining the sensitivity of costs to changes in length of contract. Because a prudent trucking company would expect to recover all its costs over the length of any contract, changes in the length of contracts result in changes in total costs of services. The variation in total costs results from the variation in the depreciation of capital assets as contract life changes. Again, these figures are shown in the main report.

During the course of this inquiry, a third truck route option surfaced - the Faro to Stewart route along the Robert Campbell Highway to Watson Lake, south to B.C. Highway No. 37 to Stewart. We have included this route in our costing.

The balance of this appendix will detail the operations and costs of each truck route. However, we should first detail the following criteria used throughout the costing.

3.0 Costing Criteria

A. Tonnage:

Forehaul	474,000 tonnes
Backhaul	54,600 tonnes

B. Shuttle Operations:

i) at Fraser on the Faro-Skagway route
ii) at Porcupine on the Faro-Haines route
iii) none on Faro-Stewart route (all Canadian)

C. Average Winter/Summer Driving Speeds:

i) Faro-Skagway	
Faro-Whitehorse	32 mph
Whitehorse-Fraser	25 mph
Fraser-Skagway	23 mph
ii) Faro-Haines	32 mph
iii) Faro-Stewart	35 mph

D. Load/Unload Times:

i) ore loading at Faro - 1/2 hour
ii) ore transfer at shuttle points - 1/2 hour
iii) unload ore at destination - 1/4 hour
iv) load backhaul - 1/4 hour
v) backhaul transfer at shuttle points - 1/2 hour
vi) unload backhaul at Faro - 1/4 hour

E. Backhaul Tonnage:

fuel	9,500 tonnes
soda/lime	14,300 tonnes
coal	20,000 tonnes
steel products	8,200 tonnes
general freight	2,600 tonnes
	54,600 tonnes

F. Backhaul Container Capacities:

fuel	11.3 tonnes
soda/lime	15 tonnes
coal	20 tonnes
steel products	20 tonnes
general freight	15 tonnes

G. Component Unit Costs (Cdn. $):

	Canada	United States
i) driver costs		
wages	$13.25/hour ($.41/mile)	$28.13/hour
overhead burden	21%	21%
overtime	mileage plus half hour	time and a half
subsistance	$26/day/driver	
ii) tractor costs		
fuel price	$1.964/gallon	$1.5475/gallon
fuel consumption	3.9 miles/gallon	3.12 miles/gallon
repair	$.25/mile	$.27/mile
tires	$.06/mile	$.099/mile
licenses	$1960/tractor	$281/tractor
iii) trailer costs		
repairs	$.13/mile	$.114/mile
tires	$.09/mile	$.149/mile
cleaning	$2000/trailer/year	
licenses	$20/year	$20/year
iv) container		
repairs	$.03/mile	$.04/mile
v) capital costs		
tractors	$89,000/unit	
trailers	$44,000/trailer set (2)	
containers		
large ore	$8,740	
small ore	$4,370	
fuel	$16,000	
soda/lime	$25,000	
coal	$11,760	
steel products	$5,000	
general freight	$10,000	

vi) rate of depreciation
tractors - 80 percent over 3 years (i.e. 20 percent salvage)
trailers - 100 percent over 8 years
containers - 100 percent over 8 years

vii) terminal costs

a) for equipment repair and maintenance
   16 employees at $40,187/annum each
b) for U.S. shuttle operations
   6 employees at $53,582/annum each

An occupancy cost covering heat, light, hydro and lease is added to (a) and (b). This cost is 50 percent of the direct employee cost.

ix) overhead costs

administration	10 percent of operating cost
insurance	2.3 percent of operatinng cost
interest	15 percent rate on 80 percent debt ongoing
profit	10 percent of operating cost, administration, interest and insurance
return	25 percent on equity

H. Cost Considerations With Backhaul

The inclusion of backhaul traffic has an impact on operations and costs in a number of areas.

Because the backhaul containers are returned empty on the ore haul, the ore payload per trip is reduced for the trucks which handle the backhaul containers by the fare weight of the backhaul containers. The number of trucks affected is calculated by multiplying the proportion of backhaul tonnage to ore tonnage (i.e. 11.5 percent) by the fleet size for the particular route. Since the effective payload per trip is marginally reduced for the fleet because of the inclusion of empty backhaul containers, more trips will be required to haul a given amount of ore. Therefore, costs which are dependent on mileage such as the driver, tractor, trailer, container and head office administration costs increase. Returning with a full load will increase those operating costs which would have been incurred, given an empty backhaul. A premium for fuel, repairs and tire costs of 20 percent has been included for those trucks operating the backhaul service.

4.0 Operations Characteristics

The operations entail removable containers for both ore and backhaul products. For backhaul, the train configuration will carry four small ore containers on a frame rail chassis. Each container would be located at the extreme ends of each trailer chassis in the B-train set. A standardized backhaul container, specialized to the product being transported, would be carried between the two containers on each trailer chassis. For straight ore loads, the configuration will be two large ore containers carried in the middle of each trailer chassis.

A truck terminal operation for administration and equipment repair and maintenance has been costed into our calculations for each route. The operations at the shuttle points have been similarly appraised.

The operational characteristics of the Canadian portion of each route are depicted in Table 1.

Table 1

OPERATIONAL CHARACTERISTICS IN CANADA

BASE CASE

	Skagway Route	Haines Route	Stewart Route
Number of trips	11,233	11,233	11,233
Round trip time (hrs.)	23.7	27.75	39.85
Number of drivers	100	118	150
Number of trailer sets	43	51	65
Number of containers			
large ore	52	61	78
small ore	69	82	104
fuel	2	2	2
soda/lime	4	4	4
coal	4	4	4
stell products	2	2	2
general freight	1	1	1
Capital costs ($000)			
tractor	3,827	4,539	5,785
trailer	1,892	2,244	2,860
containers	955	1,901	1,335
Total mileage (000Mi)	7,413.8	9,525.6	15,164.6

The operational characteristics of the U.S. shuttle operation on the Skagway and Haines routes are depicted in Table 2.

Table 2

OPERATIONAL CHARACTERISTICS AT SHUTTLE POINTS

BASE CASE

	Skagway Route	Haines route
Number of trips	22,466	22,466
Round trip time (hrs)	3.0	3.5
Number of drivers	29	36
Number of tractors	10	12
Capital costs ($000)		
tractors	890	1,068
Total mileage	1,033.4	1,797.2

5.0 Route Costs

The direct operating and overhead costs for each route option are shown in Table 3 for our base tonnage scenario.

Table 3

TRUCK ROUTE COSTS

($000 CDN)

	Skagway Route	Haines Route	Stewart Route
Driver costs	7,182,1	8,621.3	9,461.6
Tractor costs	7,253.8	9,753.5	12,768.6
Trailer costs	2,146.2	2,874.4	3,680.9
Container costs	272.8	370.7	466.1
Depreciation costs*	1,613.8	1,912.0	2,067.1
Terminal costs	1,446.7	1,446.7	964.5
TOTAL	$ 19,915.4	$ 24,978.6	$ 29,408.8
Overhead costs**	3,357.3	4,145.4	4,814.9
Profit	2,327.3	2,912.4	3,422.4
Return on equity	378.2	447.1	499.0
GRAND TOTAL	$ 25,978.2	$ 32,483.5	$ 38,145.1
Cost/tonne	$ 49.14	$ 61.45	$ 72.16

Note: * Depreciation on tractors over 3 years. Depreciation on trailers and containers over 8 years.

** overhead costs include administration, interest and insurance.

Appendix 2

CTC REQUEST FOR ADDITIONAL INFORMATION FROM CYPRUS ANVIL CORPORATION

Government of Canada Gouvernement du Canada

MESSAGE

FILE - DOSSIER

FOR COMMUNICATION CENTRE USE - À L'USAGE DU CENTRE DE COMMUNICATIONS

Appendix 2

NO.

DATE Nov. 14/83

PRECEDENCE PRESEANCE

SECURITY SECURITE

12

10

FROM DE G.M. McLaughlin, Chief - Bulk Freight, Research Branch (Telex No.
Canadian Transport Commission, Ottawa, Ontario K1A 0N9 (053-4254)

TO A Mr. McGibbon, President, Cyprus Anvil Mining Corp.,
c/o Dome Petroleum Ltd., P.O. Box 200, Calgary, Alberta T2P 2H8

INFO

ON BEHALF OF THE CTC INQUIRY BOARD, I WOULD LIKE TO REQUEST THE FOLLOWING PURSUANT TO OUR LAST MEETING IN CALGARY:

1. UNDER CURRENT PRODUCTION COST ESTIMATES AND CONSIDERING YOUR COST ESTIMATES FOR TRANSPORTATION, WHAT ARE YOUR BEST ESTIMATES OF LEAD/ZINC/SILVER PRICE LEVELS THAT WOULD WARRANT PRODUCTION AT THE MINE?

2. ALTERNATIVELY, WHAT WOULD BE THE MINIMUM REVENUE NET OF TRANSPORTATION COSTS AT THE MINE NECESSARY TO WARRANT PRODUCTION AT THE MINE?

3. UNDER EITHER RESPONSE ABOVE, WHAT WOULD BE THE MINIMUM PROFIT LEVEL (SPECIFYING PROFIT DETERMINATION CRITERIA) REQUIRED TO WARRANT PRODUCTION AT THE MINE?

4. AT PRESENT, WHAT IS YOUR FORECAST OF THE LIKELIHOOD OF START-UP?

5. AT PRESENT, DO YOU PLAN TO PICK-UP THE OPTION ON THE ORE SHED IN SKAGWAY?

DISTRIBUTION

CHARGE TO AU COMPTE DE 030-018123

PAGE 1 OF DE 2	ORIGINATOR - INITIATEUR G.M. McLaughlin	DIVISION Research	TEL. 7-6541	APPROVED AUTORISE

GC 45

7540-21-866-6545

• Right vertical broken lines denote 69 characters using Elite type (12/inch) or Pica type (10/inch). — L'espace entre les pointillés verticaux correspond à 69 caractères élite (12/po.) ou pica (10/po).

Government of Canada Gouvernement du Canada

MESSAGE

FILE - DOSSIER

FOR COMMUNICATION CENTRE USE - À L'USAGE DU CENTRE DE COMMUNICATIONS

FROM DE

TO À

INFO

NO.

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PRECEDENCE PRÉSÉANCE

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- 2 -

6. AT PRESENT, DO YOU HAVE ANY TENTATIVE OR FIRM OPTIONS TO PURCHASE ANY OR ALL OF YOUR PRODUCTION?

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ORIGINATOR - INITIATEUR

DIVISION

TEL.

APPROVED AUTORISÉ

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EXTRACT FROM TELEX OF NOVEMBER 14, 1983 FROM CAMC

"We are pleased to have the opportunity of supplying additional data to the CTC. It is extremely difficult to provide quantitative answers to questions 1, 2 and 3 of the subject telex but we will attempt to give some insight through the following discussion.

It was pointed out in our submission of September, 1983 that the Faro mine was a high cost operation among the world's lead-zinc-silver producers and that it was imperative that we reduce our costs to a more competitive level if we are to re-open the mill and be able to sustain continuous production. CAMC is still some $190 million "in the red" even though the opertion at Faro was established over 15 years ago.

The critical external issues to be addressed in realizing a more competitive position are transportation costs, unit power costs, and royalty payments. Of these, the transportation issue is by far the most important to the long term viability of the mine. As shown by our submission, we estimate that the use of the Klondike Highway would mean cost savings of $11.5 to $14.9 million ($ 1983) per year during the years 1985 to 1990, an aggregate of $81.3 million ($ 1983). We have received significant encouragement towards the reduction of unit power costs and future royalty payments.

Notwithstanding the fact that lead and silver prices are at relatively low levels, it is our view that with the transportation cost reductions cited above and improvements in each of the other areas we could approach a break-even situation in the near term (annual operating costs are balanced by annual revenue). If this balance can be achieved, we would give serious consideration to undertaking mill maintenance programs and hiring staff in preparation for resumption of full-scale operations by next fall. We would expect future real metal price increases to result in positive cash flows which would make a contribution to return of capital and profit.

Regarding the ore terminal in Skagway on which we hold an option to purchase, this facility and its cost of operation are obviously of great importance in delivering concentrates to world markets. The option is being reviewed and financing alternatives are being sought; however, the main issue is to ensure a termnal is available for our use at a reasonable cost and ownership may not be necessary to achieve this objective.

On the marketing side, we have continued to maintain contact with potential purchasers and have recently received substantial encouragement regarding sale of concentrate. On the other hand, it is very difficult to make any firm arrangements until a start-up date and delivery schedule are established.

We regret that we are unable to be more definitive in answering your queries but emphasize that the transportation issue is still of paramount importance. As you suggested at our meeting in Calgary, we have had discussions with both Yukon and Alaskan officials regarding road usage. We are also planning to meet with these officials again next week.

J. H. McKibbon
Vice President"

Appendix 3

YUKON MINERAL PROPERTIES

Appendix 3

YUKON MINERAL PROPERTIES

	Property	Size MM Tonnes	Average % Grade	Annual Mining Rate M Tonnes	Annual Concentrate M Tonnes	Miles to Skagway	1st Probable Operation Year
A. Lead/Zinc	Jason	10+	14.00	666	125	464	1990+
	Tom	10+	14.00	666	125	464	1990+
	Howard's Pass	125	8.00	1000	186	595	1990+
	Goz	12	8.00	666	125	518	2000+
	Midway	4	10.00	300	40	272	1990+
	Mel	4	8.00	300	32	425	2000+
	Anvil	87+	8.00	4000	383-520	353	1985
B. Copper	Minto	7	1.90	666	45	265	1989
	Casino	180	0.40	9100	133	308	2000+
C. Moly	Logtung	187	0.05	9100	18	231	1990+
	Red Mountain	180	0.17	9100	14	162	1990+
D. Tungsten	Canada Tungsten	4	1.50	400	20	567	1984
	Mac Tungsten	8	1.30	400	18	503	1989
	Dublin Gulch	4	1.00	400	16	415	1995+
	Risby	3	0.80	400	10	415	2000+

Notes:

1. Precious metal mines such as United Keno are not included since concentrate tonnage is less than 5 M tonnes annually.
2. Coal properties not included because export of coal from the Yukon is not economic.
3. Tungsten development will be restricted by small market for tungsten.
4. Development of new lead and zinc deposits will be delayed until world class deposits such as Red Dog in Alaska are absorbed by the market.
5. Total annual concentrates for all mines is between 1290 and 1427 M tonnes. This assumes that all mines are operating at the same time. At present, only United Keno is operating.

Source: CAMC.